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A TUNNEL THAT DOES NOT CONNECT

What is the practical relation between pathology and therapeutics? Does an exhaustive knowledge of the former really add to the physician's success? A question for our readers to answer

WE read the other day of an engineering feat that was more remarkable in the fact that it was not exceptional than as an evidence of the proficiency of our engineers. Starting on two sides of a great river, the tunnel was dug out under the river until the two parties of workers met, when it was found that only the merest fraction of an inch of difference existed.

We of the medical profession are not so fortunate. We have been working our tunnel from the two sides, but we have made the most lamentable failure in the way of forming a connection. We have studied diseases from two standpoints, the clinical and the pathologic.

The older physicians were exclusively clinicians; their studies were in the sick-room. They studied the patient, they noted the phenomena presenting themselves in the course of disease, made their deductions therefrom, made their therapeutic applications according to the theory of the case they there formed, and they met with a notable degree of success.

If you pinned them down to the pathology of the case, very frequently indeed they had to acknowledge that in fact they did not know what was the matter with the patient,

that is, from a pathologic basis. But they knew what was the matter with him clinically; they clearly saw certain departures from health, and they applied their therapeutic measures thereto with as much precision as the art of their time permitted.

The other end of the tunnel has been worked from the dissecting room. The pathologist has recognized certain departures from the normal conditions of the organs and tissues of the body. He has recognized these with his own eyes, as presented by the dead body of the patient. But here is the difficulty: Nothing in his studies has led him to any knowledge whatsoever as to the application of remedies. He will tell you very learnedly that he has found therein a certain morbid condition of the tissues of such and such an organ. But when you ask him what you are to do in a similar case, he shrugs his shoulders and says: "Nothing!" He knows nothing.

The honest physician has strenuously endeavored to bring the two ends of the tunnel together. He has striven with all his might to master the information contributed by the pathologist and to assimilate it; but the effort has not been very successful. In fact, we very much fear that the increase of knowledge on his part has led him in too

many instances into the same difficulty which the pathologist—exclusively—experienced, that is, an inability to apply the remedies. There is nothing in this study which teaches him to apply the remedies.

Here is a question which arouses a painful doubt: Does the study of pathology on the part of the clinician impair his previous ability to handle successfully his cases? Can he do as much for his patients after he has devoted himself to pathologic studies as he did before? On the face of it, one is prompted to answer stoutly to the effect that an increase of knowledge concerning disease cannot possibly be a detriment to the physician.

But just think a minute. The more profound the impression made by his pathologic studies upon the physician's mind the more is his previous conception of disease weakened. Unless he can assimilate the two branches of his knowledge, he will not approach his cases with such confidence as he felt before. He will not lay as much stress upon the clinical phenomena presenting. He will not make these clinical phenomena a ruling thought in his mind, on which the therapeutics is to be based, but the clinical picture will be to a greater or less extent obscured by the pathologic. In plain terms, he will be a less successful physician than before he knew so much.

This is taking ground which we expect will be instantly and warmly attacked. We expect to be held up to the derision of the multitude, as seeking to dissuade the physician from the acquisition of scientific proficiency, of endeavoring to turn him away from the light of perfect knowledge into the mist of uncertainty and superstition. But really, so many mean things have been said about us already that we are getting case-hardened. We expect as a matter of course to be the target for the most envenomed darts that malignity can prepare, and we'd just as soon give them something to shoot at, as suffer the chances of a flying shot in the darkness.

Perfect knowledge is as yet an unattained and unattainable ideal. Not one among us, even the most erudite, has anything like at-

tained perfection. It will be many a long year before any medical man is developed so far that he is perfect in the knowledge that is now scattered among hundreds of thousands of his colleagues. Get down from your high horse, and study not what ought to be, not what we would like there should be, but what actually is; and see if there is not some truth in the suggestion herein presented.

Every man's life is a book, but occasionally I meet a man who reminds me of a book I got one Christmas. Upon opening it I found the insides to be a pack of playing cards.

—Byron Williams.

CASCARA: SOME OF ITS DISADVANTAGES

The writer recently has had occasion to test a number of preparations of cascara in a case where it was desirable to increase the action of the large bowel. In this case there was a tendency to hemorrhoids dependent upon an enlarged liver. The patient had suffered from retention of feces, which accumulated without the patient's knowledge, until his attention was directed to the condition by an agonizing attack of abdominal pain. It required a week to empty the alimentary canal. Subsequently reaccumulation was prevented by the daily use of a saline laxative, and a weekly colonic flushing.

Desiring to find something else that would act specifically upon the large bowel, we obtained specimens of all the cascara preparations found on the market. In addition to these we experimented with pure cascarkin, the glucoside, extracted, deprived of other extraneous matters, and made into tablets. Without exception every one of these preparations excited some abdominal pain and aggravated the previously quiescent hemorrhoids, until bloody discharges resulted. It was not found possible to prevent this untoward result by dividing or reducing the doses.

The study of the action of cascara in this case showed that, like aloin, it has a specific effect in irritating, not the colon alone, which is desired, but the rectum, which is not desired. In fact aloin produced exactly similar results when tried in the same case.

We have yet to recognize an agent which acts upon the colon exclusively, or even to a marked degree more than it acts upon the small intestines and upon the rectum. Such an agent would be exceedingly desirable could it be developed. We have not succeeded in establishing in our personal experiments any application of cascara which differs from the results obtainable from aloin, provided a pure aloin is employed and it is given in strictly physiologic doses.

The trouble with aloin is, that it is almost invariably given in too large doses. Cases are rare indeed in which 1-8 of a grain is desirable; 1-67 of a grain (one milligram) is more likely to be of value, and even smaller doses will often give better results than the large ones. These small doses may be repeated frequently if desired, and in this way a daily dose may be established; which may be divided for convenience into three or four parts instead of more.

Full many a man, both young and old,
Has gone to his sarcophagus,
By pouring water, icy cold,
Adown his hot esophagus.

HOW TO "SPELL" SUCCESS

Four elements go to spell the success of every human being. These are, speaking in commercial terms, merchandise, money, men and methods.

The man must have "the goods" to deliver. The doctor's goods are his professional knowledge, his skill in diagnosis and in treatment. No success worthy of the name can ever be obtained without merit. A man may make money, he may win popularity, he may do a whole lot of things and get a whole lot of desirable things, but as a physician he will never win success unless he has a solid basis of professional knowledge and skill upon which that success is to be founded. But professional knowledge and skill alone are not enough, he needs something more.

Money is a necessity for success. One of the finest physicians the writer ever knew, thirty years after graduation was still vegetating in a back street in an Eastern city,

with the utmost pains getting together each month barely enough to pay his house rent and family expenses. This man would have been an ornament to any circle of physicians had his true worth been known. He had no money. He borrowed three hundred dollars to complete his medical education, and in the thirty years following graduation he had never been able to pay off that debt. He was proficient as a physician, but he lacked money and method.

However skilful a man may be, it is the work of a lifetime to work himself up in the medical profession without money. There are very few human beings who are not impressed by the appearance of prosperity on the part of the physician, who would not willingly pay five or ten dollars for a visit from the elegantly dressed gentleman who speeds up to the door in his automobile, rather than pay one dollar to the shabbily attired man who walks his rounds.

The first essential for getting money is to make the man from whom you are getting it feel that you don't really need it.

The man himself counts for much. There be physicians whose aspect is depressive, whose fallen countenance and drawn-down lip-corners suggest to the patient the idea of a funeral. There are men toward whom one feels an instinctive sense of repulsion. There are others who impress one as light, frivolous, flippant, inattentive; and on the contrary, there is occasionally to be met the man to whom confidence and love go out as inevitably as the night follows day. The man may not be so proficient, he may be shabbily clad, he may not even use good grammar, but somehow there is that about him which inspires confidence and affection, and the patient relies upon him. It is not the man's knowledge, it is his individuality, which is pleasant, which is harmonious. The illiterate, the irregular practician has always this advantage in his favor—that the community feels that he is one of them and not an outsider.

The fourth essential is method. A man must be up-to-date. The best means he can supply himself for treating the sick are none too good. It is criminal in him to neglect

to avail himself of the latest improvements in medical science. No matter how good are his means, if there should arise better ones he must avail himself of them. Of all things he must keep himself from getting into ruts, from growing encrusted, from allowing his knowledge to crystallize so that further accretions are impossible. He must always be ready to try new ideas, even if they do not approve themselves to him. He must be humble in regard to his own knowledge and ever ready to admit that there may be knowledge beyond it. He must apply to every new idea the touch-stone of his own knowledge; he must emphatically try for himself and not take anybody else's word. In no other way can he really make the new knowledge his own. If he uses a remedy simply because somebody advises it, it is not his own, and he has made no real progress in his art until he has mastered the new remedy and can direct it intelligently from his own knowledge and not from that of another.

He must study the art of commanding himself to his friends and patrons, not only understand his profession but make others see that he understands it. He must win the confidence of his community by deserving it. He has no more right to stand back to wait for people to discover him, than has any other man; and on him as on every other human being lies the obligation of pushing himself into that position for which he is fitted.

Too many really capable men, through a silly, childish, unwise modesty, retire into their offices, there to sit until people come and drag them out. In the name of heaven, why should people come to them! If you do know your business, how can you expect that everybody should know this, unless you give them a chance to find it out; and how can you do this except by going among the people, talking to them, consorting with them, letting them become acquainted with you, making them your friends?

Doctor, if you are not the success that you feel yourself qualified to be, sit down and ask yourself in which of these four requisites you are deficient. Take stock of your good

points and make much of them, while eliminating your sources of weakness.

Enthusiasm is the yeast of progress. Carry a full supply and don't be afraid to mix it in everywhere—and spare a little to your neighbors.

A STUDY OF DIGITALIS

It seems that the consideration of digitalis will never be ended. Nothing better illustrates the supreme importance of this great remedy than the constant succession of articles upon it which appear in the medical press. The last word will probably never be said.

In *The Boston Medical & Surgical Journal* for April 16 the special Paris correspondent devotes his letter entirely to this remedy. He says that in France the question as to the best preparation of the plant has been settled many years ago, namely the crystallizable digitalin of Nativelle, the principle that is soluble in chloroform.

This writer goes on to say that the trouble does not lie with the French but with the Germans. The great German chemical manufacturers come out every now and then with some new glucoside, which they claim to be the active principle of the plant, "more effective," "less toxic," etc. This, of course, arouses the fury of the French, who proceed to demonstrate that the new product is impure, its active part a glucoside already well known, and end with renewed eulogies for their own trusty digitalin, with its fixity of substance and certainty of action. Since this glucoside has stood the test of forty years' service it seems a fair chance that the French may be right.

He quotes an American textbook as saying: "Digitalis contains a number of substances, no single one of which acts as do preparations of the crude drug. In other words, all these compounds must act together to be therapeutically active." The writer then mentions the various glucosides and says: "None of these substances should be used in medicine to take the place of digitalis. The dose of digitalin, which ought not to be used as a substitute for

digitalis, is," etc.; and his apparent final choice of preparation lies between the fluid extract, which the French bar absolutely as unreliable, and the tincture, which no Frenchman really intending to get a therapeutic result would think of employing." He adds: "That is an instance of how the history of *materia medica* is written." "The French all use digitalin, the glucoside which is crystallizable and soluble in chloroform. This they use almost exclusively under the guidance of the great heart-men, and particular of Potain. A French physician in face of a serious case of asystole would never give the tincture."

"The French digitalis comes from the Vosges mountains. There is certainly the greatest difference in the action of digitalis according to where the plant is grown. The dose of this powdered digitalis leaf in France is from two to four centigrams. What, then, are we to think of such veterinary doses as 15 Grams in infusion (Edinburgh), 4 Grams ditto (London), or 10 to 12 (Roumania), unless the plant be altogether different?

The preparation of digitalis leaves is practically a fine art and requires as much delicacy as the tea industry, for instance. You do not simply stroll abroad in the fields, gather the foxglove, dry it and put it in a glass jar on the druggist's shelf. The influence of soil seems paramount in the question. The digitalis cultivated on the plains is useless. There is something about the geology of the Vosges that gives certain qualities to the plant that cannot be acquired elsewhere, just as the geology of Champagne, Burgundy and Gascony creates the special qualities of the wines with which you are familiar. As some vintages are immeasurably superior to others, according to season (wet, dry, etc.), so is the digitalis plant of certain summers richer in therapeutic power than that of others. So that if we physicians were to content ourselves with using the raw plant as its galenic preparations, instead of its active and invariable glucoside, we ought in all logic to add, in prescribing, the district whose plant we prefer and the year of its growth.

"The question of altitude has also something to do with the difference between the digitalis of plain and mountain; the soil is probably not the whole thing. The high Alpine plants, small in stature, have a vividness of color and delicacy of aroma unknown elsewhere. This may be a provision of nature to ensure cross-fertilization; insects at those altitudes are scarce. The Alpine wild strawberry is a tiny, almost black fruit, so small that it takes a small boy a day to pick a dish of them; but its taste and perfume are so exquisite that the cultivated berry is simply nowhere in comparison. In addition to the constitution of the soil, the factors of moisture, rapidity of growth, great variations in temperature between night and day, and intense solar radiation, must enter into the problem of the differences between plants grown in the mountains and those from the plains.

"Again, Huchard found that even in the same region the value of the plant varies according to position, and particularly exposure. The parts of the digitalis used in medicine are the leaves, after removal of stem and ribs—leaves of the second-year's growth, chosen somewhat above the ground, shortly before the plant flowers, and gathered on a dry day. Even such a detail as the drying of these leaves has its importance. The leaves, which should be kept separate from each other, can be dried either in the sun, in the dark, in a drying oven, or in a vacuum with moderate heat. They are then powdered and kept in the dark in carefully stoppered yellow bottles. Moisture and light facilitate the action of an oxidizing ferment they contain, which destroys the digitalin so rapidly that in six months the tenor of the leaves in this substance is reduced by 50 percent, while at the end of a year it is reduced to almost nothing. This is why the druggists can never keep a large supply. It is easy to understand the disappointment apt to occur from the use of the powder of digitalis in maceration or infusion.

"With such a complicated natural history as this, and in view of the great care and delicacy required in gathering and preserving the plant, we are in a position to see why

such conflicting opinions have been published concerning its preparation and action; and it becomes clear that such preparations as the tincture, extract or macerate must vary constantly and enormously, not only in different towns, but in the different drug shops of a given town, and even according to the time of year at which the remedy is prescribed.

"The French claim that their digitalin is a perfectly well-defined, stable substance, always the same, giving excellent results and far preferable in every way to the galenic forms of digitalis. Even if other things were equal, the irritating and nauseating effect of the digitonin contained in preparations made with the plant itself would make the digitalin preferable; it is probably the action of this saponin that accounts for the diuretic effect of the macerate, through irritation of the renal epithelium.

"These details make it apparent that the French method of handling this drug in clinical medicine is a logical one and to be preferred in serious cases to all others."

Potain's prescription in heart-cases was as follows: "Rest in bed; a drastic purgative; absolute milk diet. Then, during one day, in one or two parts, fifty drops of the French Codex solution of digitalin in a moderate amount of water, after which the patient takes no more medicine for three weeks. The Codex solution referred to is 1:1000, the solvent being a mixture in certain proportions of alcohol, water and glycerin. Fifty drops are the exact equivalent of 1 milligram of their digitalin. The effect of this method in a well-chosen case is something as near to a miracle as we can work on this terrestrial sphere."

The author closes the article as follows: "With all the regard due to the eminent writer of the American textbook referred to, it will not do to tell a disciple of the much-regretted Potain that on no account should digitalin be used to replace the preparations of the plant itself; or that the only reliable and pure digitalin is a digitoxin (happy name!) prepared by a German firm. Why, then, does this firm mark in its catalogs, "digitoxin (crystall., chloroformic digitalin

of the French Codex)?" Such arch-heresies are enough to make the kindly old gentleman's bones writhe in his tomb."

Two most important considerations should be employed in estimating this production: It is scarcely reasonable to expect the French to welcome anything from Germany and to set aside their native product in favor of that coming across the Rhine; and especially is this true when their own digitalin has stood the test of forty years' actual use. In the next place, the writer probably does not understand that the unnamed American therapeutic writer of a textbook on "Pharmacology" was impelled by conditions peculiar to this country to "write down" the active-principle idea and uphold the galenics. As the author quoted happens to be a paid employee of a pharmaceutical firm, which is believed to be at the bottom of the fight against the active-principle movement in this country, the *onus* of his remarks needs no explanation.

Meanwhile it may be well to say that the last edition of Wood's "Therapeutics" quotes Beates's conclusions as to the value of the Germanic digitalin, saying: "If a representative of digitalis in small bulk be desired, probably the best preparation is Merck's German digitalin. This preparation has been deemed uncertain, but according to the clinical reports of Beates and the experiments of Arnold and Wood, this is because it has been given habitually in small dose." This is a good deal for Wood to say, much more than could have been expected by those who know him.

PREPARE FOR SUMMER

At this time of the year we usually suggest to our friends to overhaul their armamentaria in preparation for the summer season. We have strong convictions on the subject of dying. We don't want to die; not for many and many a year to come. In fact we are so in love with this world that we would gladly stay in it to the uttermost possibility.

While we strongly dislike to let any of our patients die, we must confess a predilection

in favor of saving the lives of the little ones. It grieves us to the heart to think that every year thousands and thousands of these little ones perish from the group of summer diseases which we strongly believe can in nearly every instance be cured. We are perfectly frank in the statement of our belief, that the means are at our disposal to save every one of the lives that are yearly sacrificed to cholera infantum and the other forms of summer intestinal disease.

For this reason we say now, before the heated season is upon us: Overhaul your means of coping with these diseases. It is hardly necessary to tell any reader of CLINICAL MEDICINE what are our views on this subject. But what are *your* views? Was your practice satisfactory last summer? You finished the season with a confession of failure, perhaps; and the determination that you would try a new method next year. If you do not think it over very seriously, and the remembrance of last year's failures is not still upon you, you will probably begin with calomel, chalk mixture, bismuth, and the other failures and have the same sad experience again—the easy cases get well, the bad ones die.

We should have a full discussion of the summer diseases in our July and August numbers. Let us have your experiences.

HYDRASTINE

Kehrer, after elaborate experiments, comes to the following conclusions: (1) Automatic contractions of uterine muscles are benefited by hydrastis and ergot, even though the uterine nerves are severed. (2) Extract of hydrastis has the least action of all of the hydrastis preparations, hydrastine and hydrastinine being much stronger. (3) Styptol and stypticin have a stronger action under the same circumstances. (4) Hydrastine, hydrastinine, styptol and stypticin have a susceptible action in dilution of one in two hundred thousand, and therefore have about the same value. (5) This action occurs in all stages of development of the uterine muscles, from birth through all stages of pregnancy. (6) Berberine has no action on

the uterus. (7) With intravenous, intramuscular or subcutaneous injection of these, the action is similar to that described. No sedation could be determined for any ergot preparation. (8) All these cause temporary cardiac depression followed by a moderate increase in blood-pressure, due to action directly on the blood-vessels. (9) Uterine muscular contraction follows the tendency of blood-vessel contraction. (10) The complete resemblance between ergot, hydrastis and cotarnine speaks against the use of the last two in hemorrhage during pregnancy.

Too many gauge life merely as a span in which to "eat, drink and be merry for tomorrow ye die." They forget that life is eternal in the many, if brief in the individual, and that before the many has been placed a duty that demands a task well done. Be a true cog in the wheel of eternity!

—Byron Williams.

UNPARDONABLE SINS

The general impression is, that there is one sin which is unpardonable. Try to realize the state of mind of the "unhappy individuals," ourselves if our critics are to be believed, who discover, too late, that there are *many* unpardonable sins, and that they individually and collectively or both have been guilty of all of them. In fact, there are so many that we are by no means certain that we can recall all of them, but here at least are a few:

1. We have opposed the growing tendency, supported by "authority," toward therapeutic nihilism and have urged the earnest scientific study of drugs with a view to their intelligent application in the treatment of disease. The sentiment of the just now dominant element in the politics of the American Medical Association being against this idea, we stand guilty.

2. We have opposed the indiscriminate application of surgical measures to all diseases where the slightest excuse for such intervention could be devised; mainly on the ground that there was "no medical treatment of such affections." Since surgery is the dominant element of the medical profession today, and our teachings are aimed directly at the surgical pocket, irritating and render-

ing hyperesthetic the financial nerve, we stand guilty.

3. We have, to a greater extent than all other interests combined, rendered it easy for the physician to obtain and dispense his own drugs without necessary recourse or subservience to the pharmacist. We believe in the doctor's right to dispense his own medicines if he wants to do so. We believe he should be privileged to prescribe or dispense as he wishes and that he is entitled to give what he chooses and thinks best for the case in hand. We believe that his money is as good as any man's money, therefore, that he is privileged to buy as the trade buys when he buys in equivalent quantities; and we believe in those who fearlessly and openly avow this commercial principle and act upon it. We have by our advocacy of the active principles made such inroads upon the older manufacturing chemistry and the machinery of pharmaceutic supply, as to bring down upon our devoted heads the bitter animosity of those people who very naturally object to seeing their millions of dollars' worth of costly machinery relegated to the scrap heap by reason of the unstayable evolution of common sense. Again we stand guilty.

4. By our uncompromising denunciation of pharmaceutic houses furnishing dope for quackery, by aid of which, while profiting the manufacturer, the quack is able to take the bread from the doctor's mouth, we have incurred the bitterest hostility of certain pharmaceutic houses who are reaping harvests of money from this trade, while at the same time they are posing, urged and supported, as the "only proper supply houses" of the medical profession. We despise those who, for the sake of standing in with and being a part of "the great scheme," deny that they do this, when all the while they are known to do it on the sly—known even to the bureaucracy, who hide their heads in the sands of denial so that they may not only not see this but be oblivious to the ever-present and incontrovertible evil of making of and furnishing "dope for quackery" in unlimited quantity, regardless of the good and welfare of the medical profession and totally ob-

livious to that of the poor people. We stand guilty.

5. We have uncompromisingly opposed whisky; especially urging upon the physician the fact that there are, in the resources of the active principles, means of meeting every emergency in practice which is met, though not so well, by the application of alcohol. In this we have dealt King Alcohol one of the worst blows that has yet been administered to him. This interest having a high hand in this type of pharmacy and controlling no small part of it, we have won its uncompromising hostility. Guilty? We surely are.

6. We have refused to bow our heads in meek and lowly self-abnegation, and to accept, unquestioningly, the dicta of certain "authorities," who are highly affronted at our refusal to admit their superiority and abjure our own beliefs.

7. We have insisted that physicians as physicians, and we as physicians, are better qualified to judge of the needs of other physicians than are ordinary pharmaceutists, who, being entirely outside of the medical profession, cannot possibly have such an intimate knowledge of our needs. Guilty again.

8. While admitting the importance and value of laboratory methods, we have insisted that the clinician is also an observer, whose work is worthy of credence; and it is, in fact, essential to make even the laboratory conclusions of practical value. The laboratory men, who know nothing whatever of clinical medicine, and care less, naturally resent this as a rebellion against their authority, and here also we have been unfortunate enough to tread on some very tender corns. Rebellion? Guilty? If this be right, we glory in the treason of our thought and the sinfulness of our purpose to continue in our guilty ways.

As heinous as all this may be, we are fully conscious that these are only a part of our misdeeds; but surely the list is enough to condemn us in the eyes of all those whose interests we have interfered with, and they are a good many.

Still there are others; and as these others comprise nine-tenths of the mass of the medi-

cal profession today, and as these largely stand our self-constituted, untrammeled and openly avowed friends, we are content to rest our case in the hands of this just jury.

After all, with a powerful and influential section of the medical profession, our unpardonable sin has been that we have stood up for the rights, honors and privileges of the individual doctor. We have earnestly urged upon him the propriety of making himself a better doctor, of treating his own cases and doing his own work. We have strenuously urged that in nearly all cases there are really medical treatments for disease which he can apply himself; and that it is not his duty to rush off with his patient to the nearest surgeon or specialist. We have striven to arouse a spirit of independence among the rank and file of the profession, and in this we have emphatically opposed the selfish interests of men who have endeavored to convert the mass of the profession into a pack of jackals whose only function as physicians is the ignoble one of hunting up work for their leonine mastery.

Here is the head and front of our offending, and here is the reason for the animosity displayed against us by men who are not merely the tools of a powerful drug syndicate. This is why we have been singled out from all the profession in the United States as the special target for abuse. The ostensible points of attacks are trifles, not worthy of serious consideration beside the wrongs that others have perpetrated on the people and the medical profession, which could much better have been attacked by these people. The charges against us are only subterfuges, the real cause of the animosity displayed against us being as given above.

We have dared to say to the individual doctor, do your own work, and take into your own pockets the proceeds of it. If you do not feel yourself competent to do this work, make yourself competent. You are a man, free, white, and twenty-one. You are a member of the medical profession, you have all the rights and privileges that other members have. If you have not the intelligence to learn how to practise your profession, if you have not the nerve to practise

it when you do know how, you have made a mistake and would better get out.

For preaching this doctrine of self-respect and self-reliance to the masses of the medical profession of America we are, it would seem, to be hounded out of that profession and driven into outer darkness, where there is "weeping, wailing, and gnashing of teeth."

There are no harder men to whip than those who don't know when they are licked.

COMPARATIVE POTENCY OF HYOSCINE AND SCOPOLAMINE

At the section on Ophthalmology of the American Medical Association last June, Dr. Wendell Reber, of Philadelphia, presented a paper on the above topic, which has just been published in the *Association Journal* for April 25. Dr. Reber details a number of experiments with the two agents mentioned in the title of the paper. In these trials one drop of 1-10-percent solutions of the two were applied, the hyoscine solution in the right eye, the scopolamine in the left, of the same patient. The utmost pains were taken to eliminate all sources of uncertainty. The alkaloids were both from Merck; the solutions were prepared by one of the most reliable chemists of Philadelphia.

In these experiments it was found that hyoscine required an average time of thirty-five minutes to produce full pupillary dilation, while scopolamine required an average time of forty-seven minutes to produce the same results. The average time for the onset of full cycloplegia under hyoscine was fifty-nine minutes, while scopolamine required ninety-two minutes. "So that the relative pharmacodynamic power of hyoscine hydrobromide and scopolamine hydrobromide, used in ordinary office work, may be said to be somewhere close to 59 : 92. Or, to reduce it to the commoner form of statement, hyoscine in these tests showed itself approximately 50 percent more potent than scopolamine in producing cycloplegia for refraction work.

"So much for the academic phase of the matter, which seems to be rather at variance

with the claims that chemistry makes for these two drugs."

Correspondence is quoted with Merck & Co., in which they first suggested that there might have been a difference in the specific rotatory power of the two agents used, citing the fact to which we have frequently called attention, that there is much scopolamine of low optical rotation on the market, but in another letter Merck & Co. stated that the scopolamine and hyoscine furnished by them were both of the specific rotatory power of minus 20 degrees—and the hyoscine and scopolamine used in the test were both of Merck's manufacture.

The author goes on to say: "This leaves the matter precisely where it was in the beginning, namely, that with two drugs said to be absolutely identical as to clinical effect, pharmacodynamic power, molecular build and reaction with the polariscope, there should seem to be a more or less uniform difference in potency when tested by the delicate accommodation reaction." There remains as a possible explanation the parallel fact of chemical identity, but pharmacodynamic difference, as also in the case of caffeine and theine, and of cocaine and stovaine, which are said to be chemical isomers and yet exhibit a wide difference in their action. The familiar example of the kaleidoscope naturally occurs to one pondering such problems as these.

"It requires but a slight stretch of imagination to believe that some such similar principle may be operated among chemical isomers. That is to say, that although they may be of the same total molecular constitution, yet a different arrangement of the various molecules may result in difference of therapeutic effect or biologic reaction; just as one dozen dry or wet batteries produce currents of varying qualities according to the way in which they are connected, a fact utilized by electricians every day. Unless some such possible explanation as that just offered exists, there is no means of explaining the seeming difference in the reaction of the eye to hyoscine and scopolamine hydrobromide. In the last analysis it is always the

clinical phase of such studies that interests us most."

In the discussion which followed, Dr. Albert E. Bulson, Jr., of Fort Wayne, Ind., agreed with Dr. Reber that hyoscine was more effective than scopolamine as a cycloplegic. For four or five years he had used hyoscine almost exclusively as a cycloplegic and found it more reliable than homatropine and more evanescent than atropine. He said it was absurd to think that toxic effects would not occasionally occur, notwithstanding the utmost caution. But in an experience of several thousand cases in which hyoscine was employed he had never seen any alarming symptoms, though frequently he noted toxic effects which warranted careful observation of the patient for some hours afterward.

Dr. S. D. Risley, of Philadelphia, was particularly interested in the peculiar isometric properties of duboisine, homatropine, atropine and hyoscyamine. While chemically identical, they produced very different physiologic results, especially in the duration of the paralysis of accommodation.

The most incomprehensible thing about this paper is, however, that Geo. H. Simmons ever prevailed upon himself to allow its appearance in *The Journal* of the Association, since he and his accomplices have exhausted every effort to pour contumely on the head of Dr. Abbott because he insisted on supplying the profession with hyoscine from *hyoscyamus* under its own name, instead of substituting under the same name an article which he believed to be inferior, although pharmaceutic authority was adduced to the contrary.

Had Dr. Abbott substituted the more easily and cheaply made scopolamine and sold it under the name of hyoscine, the charge of fraud made against him might have stood. We believe it does stand against firms who are doing that very thing. Under the circumstances we can only wonder at the astounding effrontery with which these people have dared to charge Dr. Abbott with wrong-doing, because he would not make this substitution. Well, "the mills of God grind slowly, but they grind exceedingly

small;" and we have at last from the source whence we have always claimed that the last word of the controversy must come—the clinical field—evidence to show that hyoscine from *hyoscyamus* and scopolamine from *scopola* are *not* identical in their action upon the human body.

Tincture all your thoughts with kindness, all your ambitions with helpfulness, all your acts with determination, if you would make a lasting impression upon your world, be it big or little; but remember that the possession of these virtues, and all others, cannot save you from calumny if you insist upon doing your own thinking.

SPINAL IRRITATION (NEUROTOXIA)

Twenty-five years ago the classification of diseases, like their consideration, was based upon clinical conceptions. This term was then used to designate a certain group of symptoms not conveniently arranged under any other head. Our classifications are now based on anatomic conditions, and there is no place in the nosology for spinal irritation. In fact the term has totally disappeared, so that even in the "Reference Handbook of the Medical Sciences" it does not appear. Unfortunately we have not as yet established such a connection between the pathologic-anatomic conception of diseases and their therapeutics. Hence, the more profound is the physician's study of pathology, the less he usually knows about the practical, clinical side of medicine.

There was a time when we recognized the clinical fact that there exist certain cases which present symptoms of irritability of the spinal centers. Some of these we found it convenient to arrange under either hyperemia or anemia of the spinal cord. Sometimes there was "scrofula" present, while in others there was the dyscrasia occasioned by syphilis, malaria, mercury or other of the then recognized causes of an impure blood-supply.

Then followed the time when most of the cases which had been called "spinal irritation" were grouped under the term "neurasthenia", and this was variably ascribed to overwork, sexual or other excess, and similar causes.

Nowadays we have learned to recognize as the primary cause underlying the vast majority of these phenomena, autotoxemia, generally due to absorption of toxic principles from retained and decomposing fecal matter in the large intestines.

Under the light of the present day we seem to have arrived close to the truth at last. It is not remarkable that the delicate, susceptible nervous tissues should especially respond to irritation of toxic matter brought in contact with the cellular structure, through the medium of the circulation; and this toxin exerting its influence upon all parts of the nervous structure, the effects will become manifest at the point of lowest resistance.

Hence, then, we are likely to have, as we do, a series of ill-defined, varying, unclassifiable phenomena, due in a general way to the irritation of the spinal tissues by these toxins, but not presenting a very closely similar picture in any two cases. We cannot say that these are myelites, and it is unlikely that any particular column of the cord should be attacked to the exclusion of the others. Possibly it may yet be demonstrated that the more serious degenerations of the spinal tissues are due to this cause and have their beginning in the anomalous phenomena we used to group under the term of spinal irritation.

Be this as it may, if is good practice, when such symptoms of spinal irritability are manifested, to begin by completely emptying and disinfecting the alimentary canal. If such obvious sources of toxins are present, such as suppurating foci about the uterus, ovaries or other pelvic tissues, or anywhere in the body, for that matter, it is imperative to remove these by the proper mechanical measures. When these indications have been attended to, we may then with propriety soothe the irritability by the use of the great spinal sedatives, cicutine, gelseminine and solanine, or other properly indicated remedies.

Our friend, Dr. Vogeler, suggests that the new view of the pathology of these cases might be expressed by substituting instead of the term "spinal irritation" that of

"neurotoxias." The suggestion is a good one, and we offer it the "family" for use or—criticism.

Say not: The struggle naught availeth,
The labor and the wounds are vain,
The enemy faints not, nor faileth,
And as things have been they remain.

If hopes were dupes, fears may be liars,
It may be, in yon smoke concealed,
Your comrades chase e'en now the flyers,
And but for you possess the field.

—Clough.

THE TRULY "SCIENTIFIC" DOCTOR

To be a really and truly way-up scientist, it is necessary, in the first place, that the doctor should have spent sufficient time in Germany to learn thoroughly to despise his own country and all that emanates from it. When he has learned to feel that no serious consideration is to be given to any man who has not studied in Vienna, long enough to become saturated with the dogmatic pessimistic views and sentiment of that center of medical learning, he has taken the third degree. Thereafter, for the remainder of his life, there remains only the duty of asserting himself, and disseminating the principles he has imbibed with his beer and tobacco smoke.

Once in three years he may present a paper to some learned medical society, carefully avoiding in the choice of the subject anything which is of practical interest to anybody. In treating his subject, he must sedulously eschew everything of a useful nature, or else it would not be "pure science." Having secured a subject which nobody cares about, and written a paper upon it which is of no use to anybody, couched in terms a large proportion of which are unintelligible, he is comparatively safe from criticism and in an excellent position to throw stones at his neighbors.

In this he finds the serious occupation of his life. Having no ideas whatsoever of his own, he looks about for anybody who shows any trace of possessing one, and then he proceeds to punch holes into him. This is easy. Constructive work is slow, tedious, difficult and uncertain; so he takes the easier

part of a critic and chronic fault-finder. Having accomplished nothing of consequence himself, he naturally feels resentment against anybody else who has done anything, or even tried to do anything; and the more important the other man's work is, the more the critic's animosity is aroused against the person who does try to benefit his kind and his profession.

When a fellow wants to find fault it is easy: All he has to do is to look for a man who is trying to do something, and then hit him. It is so easy to demonstrate beyond a peradventure that the thing can't be done. The next thing is to show that it would not be of any use if it were done, and if a man goes ahead despite all discouragement and does it, then the correct thing is to come out and say that somebody else did it before him, that he was not the first.

It is needless to say that a man like this has no sense of humor. His idea of a joke is to hit somebody, to say something rude to a person. The greatest delectation possible to him is to find some perfectly unoffending person and go out of his way to find a chance to say or do something unkind and nasty to that person. It does not make a particle of difference that the person never offended him, or anybody else for that matter. All he thinks of is that he has an opportunity to get in a whack at a person, and if he thinks that he can do so and get away without being harmed himself, that is exactly the sort of a pudding he is looking for.

Some wise person says that any mule can kick; and it is true that there are a good many human mules.

THE ACTION OF THE VASOMOTORS

In *The Medical Record* for April 25 there appeared two papers upon the vasomotors which are worthy of more than usual consideration. The first was by Dr. Geo. B. Wallace, the title being "The Physiologic Mechanism of Vasoconstriction and Vasodilation." Dr. Wallace says, were the arteries and veins of the body a system of rigid tubes, the pressure and amount of blood flowing through them would be de-

pendent entirely upon the heart. A change in the pressure and of blood-flow in any part of the system would be accompanied by a corresponding change in every other part.

Thus if a certain group of muscles in active contraction and relaxation were supplied with a needed increase in blood-supply, every other organ would receive a similar increase, whether they needed it or not. Obviously this would imply a necessary waste of energy on the part of the heart. That this condition does not exist is due to the circular muscular fibers of the vessel-walls, which exercise a certain force and are largely controlled in their contractions and relaxations by the vasomotor nerves.

These nerves, the vasoconstrictors and vasodilators, control the caliber not only of the arteries but of the capillaries and veins as well. Their chief effect, however, is exerted on the arteries and especially upon the arterioles.

Stimulation of the vasoconstrictors narrows the lumen of these vessels, increasing the resistance of the flow of blood, and a rise of pressure in the arteries is insured, that of the veins and capillaries lowered, while the tissues supplied by the affected arteries receive less blood and oxygen.

Stimulation of the vasodilators gives an opposite effect. Since this cannot be accomplished by muscular contraction, the vasodilators, like the vagus, must be purely inhibitory nerves.

The vasoconstrictors are chiefly in the medulla, passing down the cord and emerging with the anterior roots from the lowest cervical or first dorsal to the second or third lumbar, as preganglionic sympathetic fibers. These end in the ganglion-cells of the sympathetic plexuses, from which as post-ganglionic fibers they are distributed throughout the body. Besides effecting changes in the ~~caliber~~ of the vessels they maintain the tonus as well.

There are other additional vasoconstrictor centers in the cord, especially between the first dorsal and lower lumbar segments. These have less influence than the medullary centers in effecting changes in the caliber of the vessels, but exert as much in maintain-

ing their tonus. Some degree of tonus is also afforded by peripheral structures.

The sympathetic ganglion-cells play some part here, the chief effect coming from the vascular muscles or from the peculiar endings there. These are not exactly nerve-ends, but may be termed neuromuscular junctions. This seems to have been established by Dixon's experiments, which indicated the existence of some structure stimulated by adrenalin and paralyzed by apocodeine and relaxing differently from the muscles but not affected by degeneration of the nerves.

Dreyer's experiments indicate that the vasoconstrictor sympathetic nerves require for their proper function the presence of the adrenal secretion. The presence and amount of this secretion is dependent in part at least on impulses coming to the gland through the sympathetic system.

There is no very definite knowledge concerning centers for the vasodilator nerves. It is generally believed that these are located chiefly in the medulla, although reflex-centers seem to be present throughout the spinal cord. These nerves leave the central nervous system as preganglionic fibers, in part with the cerebral, in part with the posterior spinal nerves. They pass through the periphery usually in company with the constrictor fibers, although sometimes separately. The part most plentifully supplied with the vasomotor nerves is the splanchnic area, comprising vessels going to the spleen, liver, kidneys, and especially to the intestines. Owing to the immense area of arterioles and capillaries it contains, this region has most to do in effecting changes in the general blood-pressure and blood-distribution.

Whether the vessels of the brain, lungs and heart contain vasomotor nerves is still disputed. If present, they have little control over the vessels. This applies more to the constrictors than to the dilators. The circulation through the brain, however, is dependent largely on that of the splanchnic area. Constriction of the splanchnic results in dilation of the cerebral vessels, with a greater flow through the brain; dilation of the splanchnic has the contrary effect.

Brodie and Dixon have shown that vasoconstrictor nerves are not present in the pulmonary vessels. Adrenalin constricts all vessels supplied with vasoconstrictor nerves, and instead of constricting the pulmonary circulation, some dilation may be induced by this drug.

The general blood-pressure is usually governed by the constriction or dilation of the splanchnic area. Constriction here results in passive dilation, with an increased blood-supply in the brain, lungs and heart. The reverse is true when the splanchnic vessels are dilated. A local increase in blood-supply by vasodilation is the usual physiologic accompaniment to an increase in function.

May has shown that dilation of the pancreatic vessels occurs when this organ is in active function after the administration of secretin (duodenal extract). The dilation is not directly due to secretin, but to the formation of unknown metabolites, which being concentrated in this gland, affect the vessels there and nowhere else. So the renal vessels are dilated by urea, although this substance tends to raise the general pressure. When any organ is active, carbon dioxide appears in the blood in increased amount; probably by stimulating the vasomotor and cardiac centers the dilation of the vessels of the functioning organ is offset and the level of the blood-pressure kept constant or raised.

The vascular reflexes form another governing mechanism, one set being confined to the vascular system and a second comprising the impulses originating in other organs.

The chief afferent path over which cardiovascular reflexes travel is the depressor nerve. This arises in the beginning aorta. Its stimulation causes splanchnic dilation with fall in pressure, and this may come from an overfilled aorta. With normal aortic pressure the depressor nerve has no marked regulatory influence. Its controlling power on the blood-pressure is rather slight, especially when high pressure is due to increased irritability of the vasoconstrictor center.

Digitalin and strophanthin injected into intact animals cause constriction of the splanchnic and dilation of peripheral vessels

such as those of the hind limb. If the splanchnics are all tied off the injection of these drugs causes not a dilation but a constriction of the vessels of the hind leg. If an artificial circulation is established in the leg, so that it is connected to the rest of the body only by nerve, the injection of either of these drugs again causes constriction of the splanchnic and dilation of the leg-vessels. Hence the dilation must be an active one from a reflex starting in the splanchnic.

This reflex dilation takes in the vessels of the brain, skin and probably lungs and heart.

This reflex is of great importance as a protective mechanism, since a rise in general pressure from splanchnic narrowing may be partly or wholly offset by dilation of vessels elsewhere. It seems probable that the failure of many drugs to produce a rise in general blood-pressure when given to healthy animals or persons may be thus explained. The subcutaneous injection of strychnine, 1-20 grain, or caffeine, 2 grains, in a normal individual, may be followed by little if any rise in blood-pressure.

Many vascular reflexes originate in the brain. Emotional or psychic reflexes are very common. Whether they produce a rise or a fall in blood-pressure is dependent on its character and intensity. Undoubtedly they act through changes in the caliber of the splanchnic. They are usually of short duration. Stimulation of many sensory nerves results in rise of general pressure, and this again is due to splanchnic constriction and is generally accompanied by dilation of the peripheral vessels.

Cold may cause constriction of all the skin-vessels although applied to only a limited area. Heat causes the reverse effect. This reflex undoubtedly regulates the body-temperature. The splanchnic follows inversely the changes in the skin. Certain internal vascular regions, like that of the kidney, may be especially affected by skin-reflexes.

There is a somewhat definite sensory relationship between deep-lying organs and certain skin-areas, and counterirritants applied to such areas may affect the blood-supply to the related internal organs. These influences correlate one part of the vascular sys-

tem to other parts so that the physiologic condition is maintained. In abnormal states, however, the balance may be disturbed, as in neurasthenic individuals.

Fainting is usually attributed to abnormal psychic impulses which cause great splanchnic dilation and resulting cerebral anemia. In other nervous disorders the abnormal effects may be more localized. Angioneurotic edema is cited as an example.

By lessening the tension of carbon dioxide in the venous blood and the tissues, Henderson produced a condition in animals apparently identical to surgical shock. There was a pronounced fall in blood-pressure, an increase in the heart-rate, unconsciousness, and more or less loss of reflexes. As a result Henderson advanced the hypothesis that acapnia, or diminution of CO_2 , is the cause of surgical shock. But the primary causes of the symptoms classed under this head may be so varied that the common results may be due to different abnormalities of function.

The article closes with these words: "It is self-evident that a better understanding of the abnormal conditions existing means a more intelligent line of treatment, and it is equally apparent that this better understanding must rest upon a sound knowledge of the physiological mechanism."

Then gently scan your brother Man,
Still gentler sister Woman;
Though they may go a little wrong
To step aside is human.

—Robert Burns.

DEATHS DURING ANESTHESIA

Schultz writes to *The Lancet*, maintaining that a certain number of deaths from anesthetics are inevitable. In most cases the primary cause of death is the accident or disease, and only very remotely the anesthetic. There is no justification for the public becoming alarmed over the coroner's figures, when one compares the number of deaths with the enormous number of operations now performed. As the tendency to a fatal result is somewhat influenced by the mental attitude of the patient, Schultz appeals to the

lay press to keep sensational reports out of publication.

A writer in *The Texas State Medical Journal* figures out a high percentage of deaths from scopolamine-morphine by the highly original method of counting in eighteen deaths which occurred during operation under that anesthetic, but which the operator declares were not at all due to the anesthetic. But anything is allowable to make out a case against the new anesthetic.

PERSONATION AT EXAMINATIONS

The World, of New York, for April 17, says that a person has been caught who was offering to supply Regents' certificates in Law, Dentistry or Medicine, for a consideration. A physician's certificate came high, at one thousand dollars. For this the advertiser agreed to go and stand the examination and present the party who paid the one thousand dollars with the certificate.

While this attempt was detected and the advertiser arrested, what is there to hinder anyone playing the same trick? A man applies for a regents' examination, passes the ordeal, and receives a certificate. Under that same name some other man, in some remote part of that state, goes to practise. What is there to show that this is the same man who passed the examination? Of course such a thing is unlawful, and if detected the man could be punished. But why should anyone imagine that such a fraud was being perpetrated, or under what circumstances other than accidental would the fraud be detected?

The next thing we shall have to have is a Bertillon examination made of every candidate; and this, with his photograph made part of the record which the man must register if he attempts to practise. In the meantime, perhaps the thumbprints will be sufficient identification. There will be no difficulty whatsoever in complying with this last suggestion. The man who is actually examined leaves his thumb prints, copies of these go with the record, and when he files his record where he locates, the thumb prints could be appended and compared. It

seems easy, and it certainly is advisable. The best safeguard now is the difficulty of finding men capable of passing the examinations—as obviously it would be difficult for any one man to present himself repeatedly.

The first step to success is in "making good" with the little things that the many think of no importance.

SMALLPOX—WHO TAKES IT?

A recent circular from the Chicago Health Department tells us that an unvaccinated boy with smallpox visited three Evanston families; in each was present one unvaccinated member, all others having been vaccinated. These three unvaccinated members contracted smallpox; all vaccinated members of the three families failed to contract the disease, although equally exposed. The boy also visited a family on Armour Avenue, coming in contact with a considerable number of persons, among whom three had never been vaccinated. All others had been vaccinated. These three unvaccinated persons contracted smallpox. All the vaccinated escaped it. This boy visited a janitor's family on Thirty-third Street, also where there were two unvaccinated members. These two unvaccinated members contracted smallpox, the vaccinated members escaped it.

This is one more of the innumerable examples that prove the efficacy of vaccination. It is a sad commentary on the obtuseness of the human intellect that there should still exist a numerous and even influential anti-vaccination party. Basing their argument on the exceptional cases where vaccination fails or even works an injury they simply ignore the overwhelmingly predominant favorable testimony, and persist in peeping through a little crack when the broad window is at their disposal.

GELSEMININE

Every new opportunity which the writer has had for testing the efficacy of gelseminine as a means of alleviating the suffering caused by the withdrawal of habit-morphine con-

firms him in his view as to the efficacy of this medicament. First applying with fullest extent the principle of elimination to get rid of the toxins—released as the morphine is withdrawn—no single remedy or combination of remedies as yet tested compares with gelseminine in efficacy.

Up to the present this drug has not been given in greater doses than 1-50 grain hypodermically every two to four hours. This has not occasioned drooping of the eyelids or other toxic manifestations, but it has proved sufficient to allay the nervousness and irritation in every instance. We can confidently recommend it to our brethren as worthy of trial.

Gelseminine seems to meet exactly the indication that has been most difficult to deal with heretofore. Patients say that they have not lost a night's sleep or a single meal, have no ache or pain, yet their suffering is indescribable. Much of this is due to auto-suggestion, and is removable by plain, direct, common-sense statements, especially if given in the way of prognosis. But there remains a modicum which is undoubtedly due to the fact that the nerves, released from the numbing influence of the opiate, take on excessive or hyperesthetic conditions. This is evident by the fact that the special senses become more acute than normal. This hyperesthesia is exactly relieved by the use of gelseminine, and under its influence the autosuggestive impressions are more easily dealt with. Again we say, this agent is worthy a trial.

ATROPINE IN STRANGULATED HERNIA

Tcherkesson draws attention to the utility of atropine injections in strangulated hernia. He uses two milligrams at a dose. Half an hour after the injection has been given an attempt at gentle taxis is made. The patient is put in the genupectoral position. A second injection is given if there is further difficulty. The author strongly urges that every strangulated hernia should be operated upon, even in cases where this method has been successful.



MORALS AND MANNERS AS AFFECTING HEALTH

A study of some of the factors which are unfavorable to health and longevity, such as occupation, diet, habits, appetites and morals

By A. L. BENEDICT, A. M., M. D., Buffalo, New York

THE general cultural class to which an individual belongs has a very considerable bearing upon his health and longevity. This is largely due to occupation, but the comparative statistics of different occupations present curious exceptions to what would be expected in mortality-rate, partly explained by relative differences in age. However, it may be said that a man engaged in a quiet, professional or business life has a mortality-rate of about 11 to 20, on an average about of 15; while manual labor involves a death-rate of about 20 per 1000, in any one year.

These differences are due, in large measure, to the relative exposure to causes of violent death. For example, while only about one death in 25 among the professional workers is due to violence (other than suicide) one in every 4.6 is due to violence among boatmen and canal-men, and one in every 2.6 among steam-railroad employees.

Factors Modifying Occupational Risks

Barring certain strictly occupational risks, it should be remembered that the deaths by violence are more characteristic of an occupation, than the general mortality which is obviously affected by average age and duration of employment. For example, clergymen have one of the highest total

occupational death-rates (23.5 : 1000) while steam-railroad employees have one of the lowest (10.8 : 1000) in spite of their liability to violent death in nearly 7 times as many cases. This and similar discrepancies are explained by the fact that clergymen enter on their life-work several years later and are nearly always classified as such at the time of their death, even if retired, whereas railroad men go into more quiet occupations later, especially after a disabling accident, and are not classified as of their original employment at the time of death unless still actively engaged in it. Generally speaking, excepting the highest and lowest occupations, most men change from one occupation to others, and even the ordinary course of promotion often changes the individual not only from one occupation to another but even from one census-class to an entirely different one, particularly from the laboring to the official class.

However, in an approximate degree we may say that for the total adult lifetime a man in a quiet professional or business occupation incurs, each year, a death-liability of about 16 to 20 per 1000, while for the coarser occupations, exclusive of those of extra hazard, it is 20 to 25 per 1000.

So far as death by violence is concerned (exclusive of suicide) the mortality ranges

from about 5 per 10,000 for the quieter, more "genteel," occupations to 40 or 50 per 10,000 for those involving obvious exposure to danger. Policemen, detectives, watchmen, soldiers and sailors (in time of peace) all have a rate of about 14 per 10,000. For laborers it is about 23.5 per 10,000, but this rate evidently is dependent to a large degree upon moral and mental factors, including indifference of employers, since butchers have a corresponding rate of 8; marble and stone cutters of 10; farmers and farm laborers of 8.4; blacksmiths of 10; iron and steel workers and machinists of 7.8; and masons of less than 16.

While not susceptible of proof by statistics, it is plain that a man of good morals and manners, who does not get drunk and who consorts naturally with persons similarly well behaved, thereby reduces his liability to death by violence at least to the average of the quieter occupations (about 5 : 10,000) and, indeed, to that of females (2.4 : 10,000) excepting for some risk due to differences in out-door life which can at least be compensated by habitual caution.

Hatred a Factor in the Mortality-Rate

Strictly moral points involve the slight total mortality by execution, homicide and suicide. The moral factor of envy is well illustrated by the fact that, up to date, just 10 percent of our presidents have been assassinated, whereas the average liability of males to death by homicide is only 1.5 in 100,000, and of females 0.6 : 100,000. Considering the probable risk of the class from which presidents are chosen, it is safe to say that our presidents have incurred at least ten thousand times the risk which they would have if they had remained in private life. In the aggregate every man who incurs, justly or unjustly, the hostility of his fellows, increases his probable mortality-rate, not only by tempting to violence, but to neglect in critical times of danger.

The average mortality by suicide is 15.1 for males and 4.8 for females per 100,000 of population. As, however, the rate for young children is very small, the average adult mortality is about 50 percent greater. The

contrast between the male and female mortality-rate seems to show that suicide is not, as commonly considered, strictly and mainly due to impulse, disgrace, etc., and, while there are very irregular fluctuations according to occupation, it appears that hardship and poverty pretty nearly balance the morbid tendencies of persons of better social class. Neither is there any significant fluctuation apparently corresponding to finer and coarser instincts, law-abiding tendencies and the opposite. The only occupations having a very low suicide-rate are those subject to great risk of death from violence, which may be interpreted to mean either that the constant subjection to danger (and hope of death?) satisfies the suicidal appetite or that when a suicide actually occurs, it is usually considered accidental death. Clergymen have a rather low suicide mortality, i. e., 8.5 : 100,000; physicians one of 23.6, which is about that of the remainder of the professional class. But it is well known that many suicides by physicians are glossed over and, to spare the moral stigma, we insult the late physician's knowledge of doses.

Occupations largely recruited from those who have seen better days or who have proved failures, as collectors, agents, boarding-house keepers (male), etc., have a suicide-rate of 35 to 45 : 100,000. The only occupation of any considerable aggregate population which has a notably high suicide-rate, not thus easily accounted for—and, indeed, its rate is far greater than those in which a plausible reason exists—is that of cigar makers and tobacco workers—66.5 : 100,000. In the absence of any economic and social factor especially operative in this group, it seems reasonable to assume that the physiologic effect of the tobacco itself and the hygienic conditions, which latter are no worse than for many occupations of low rate, are responsible.

Some Moral Factors to be Considered

Drunkenness, lack of self-control, even rashness are moral factors which involve their victims both as perpetrators and recipients of violence and accident. But they are also operative in the increased incidence

of many diseases, such as delirium tremens, pneumonia, hepatic sclerosis, renal degeneration, etc., for alcoholism especially, and of all in which chill, exposure, improper diet, ignoring of hygienic laws, disregard for danger of infection, etc., are factors.

Insanity seems often to be merely the culmination of habitual bad temper, emotional expression, etc., although it is fair to question how far such manifestations are controllable by one with a genuine tendency to insanity. Apoplexy is frequently precipitated by emotions, and a celebrated physician of advanced years declared that his life was at the mercy of any rascal who was disposed to irritate him. But the obvious moral is to practice self-control.

Venereal diseases are usually thought of first as those in which the moral factor is operative but, while this view is largely correct, it should not be forgotten that, as in the case of technical crimes, we have to do with impulsive as well as habitual criminals. Moreover, caution often outweighs the pathologic tendencies of immorality.

The inordinate gratification of appetites other than those connected with alcohol and venery also involves a predisposition to various forms of disease. Excessive use of tea, coffee and tobacco, gluttony, laziness, lack of cleanliness, improper attention to clothing, exercise, respiration, etc., are more or less closely connected with normal appetites and morality in the broad sense.

The Responsibility of Dietetic Indiscretions

It may seem far-fetched to consider dietetic indiscretions as violations of the code either of morals or manners, yet there is not so wide a difference as might appear between the man who drinks liquor short of the amount necessary to make him an immediate source of traumatic danger to himself or others, and the one who eats immoderately and thereby produces other forms of catabolic toxemia and of intestinal putrefaction or fermentation. It seems a fair comparison, both ethically and in the result, between the man who breaks his

neck on account of taking enough alcohol to make him unsteady on his feet, and the one who produces a fatal inflammation of the appendix or obstruction of the bowel by gross intemperance in eating.

While an exact statistic comparison is not possible, it is plain that that man has the lowest average liability to early death who is consistently clean, physically and morally, who controls both his appetites and his temper, who is careful of himself and considerate of others, who practises not only a negative virtue but who is cheerful and kindly and who aspires to the best environment.

It is even possible to attempt a quantitative estimate of the proportion of mortality which is preventable on moral grounds, under existing circumstances; including under moral grounds conscientious and intelligent exercise of sanitary and hygienic precaution, as in the avoidance of infection from tuberculous sputum, typhoid discharges, etc.

Preventable Mortality in One Thousand Cases

	Males	Females
General Infections (which cause 210 deaths in every 1000)		
Malaria (estimated as about one-half preventable).....	7.	7.
Typhoid (estimated as about two-thirds preventable).....	24.	24.
Cholera infantum (estimated as about one-half preventable).....	13.	13.
Smallpox (estimated as entirely preventable).....	4.	2.0
Venereal disease (estimated as entirely preventable).....	10.	1.4
Various other infections (arbitrary assumption).....	1.8	1.4
General Diseases "B" of Census (18.3 in every 1000)		
Alcoholism (estimated as entirely preventable).....	4.5	0.9
Poisons (estimated as half preventable).....	2.	1.7
Inanition (estimated as half starvation since physiologic starvation is included under other terms).....	5.	5.
Tuberculosis (102 in every 1000 male deaths, 121 female).....	51.	60.
Diseases of Nervous System (117 in every 1000) estimated as due to syphilis, alcoholism, controlled emotions, etc.....	20.	20.
Diseases of Circulatory System (75.0 in every 1000) estimated as preventable on above grounds.....	5.	5.
Pneumonia (110 male deaths, 101.8 female in every 1000) (male excess considered due to alcoholism, etc.).....	8.	*
Diseases of Digestive System (60.3 : 1000) (cancer mainly excluded)		
(Excess of male over female appendicitis).....	2.3	*
Excess of female over male peritonitis considered as mainly gonorrhoeic, abdominal, etc).....	4.5	*
(Estimated as due to gross dietetic errors).....	10.	10.
Diseases of Urinary Apparatus and Male Genitals (Excess of male over female bladder diseases).....	3.5	*
Affections Connected with Pregnancy (Half of abortions considered as due to moral causes).....	0.6	*
Accidents and Injuries (81.9 male, 30.1 female deaths per 1000).....	0.9	0.9
Exposure and Neglect (considered as totally preventable).....	0.9	0.9

	Males	Females
(Half of excess of male over female drownings)	3.	
(Excess of male over female gun-shot wounds)	5.6	
Homicide considered totally preventable.....	2.9	0.6
(Railroad accidents considered as half preventable).....	6.	0.6
Suicide considered totally preventable.....	8.2	2.5
Unspecified Violent Deaths, including legal execution considered as half preventable.....	15.	5.
Total Preventable Deaths in every 1000.....	212.7	175.6

Violations of Morality

At first thought it appears that the charge that over one-fifth of all male deaths and over one-sixth of all female deaths are due to violations of morality, even including gross carelessness, is an exaggeration or can be held as true only in a recondite sense. Such a charge is an exaggeration if we include only criminally punishable carelessness or if we do not assume an enlightened public conscience. The public neglect of drainage and mosquito extermination and the private neglect of netting to protect against malaria and a few other items may be conceded to be included under immorality only in a far-fetched sense. But only a few deaths in the thousand can be thus extenuated. For a physician, nurse or even layman of average intelligence, in view of the widely disseminated information on the subject, to allow typhoid discharges to enter water-supplies, and for municipal authorities, heads of institutions and families to permit the drinking of suspicious water without boiling is certainly as near homicide as the wilful exposure of nonimmunized individuals to conspicuously contagious exanthemata. Various other items may be defended on the same general argument. In the great majority of such instances there is no real ignorance of the danger, at least not after the case is in the hands of a physician; there is merely a failure to appreciate individual responsibility.

So far as venereal diseases are concerned, to say nothing of blindness, invalidism, fetal death and lack of fecundity, etc., the estimate made probably does not cover the actual, direct and indirect, mortality of human beings born alive. A considerable allowance has been made in the 25 preventable deaths among the 193 included under nervous and circulatory headings, but the 25 also include alcohol and other moral

causes. There is a considerable death-rate due to sequelæ of gonorrhea alone which would not seem to be accounted for in the 3.5 deaths per thousand from excess of male over female bladder troubles nor in the 4.5 deaths per 1000 from excess of female over male peritonitis. Certainly, to assert that only 6 deaths in 10,000 among females are due to moral factors in connection with abortion, including immoral pregnancy itself, criminal abortion and septic complications of innocent pregnancy and abortion but due to gonorrhea and syphilis, would seem explicable only by the falsification of death reports.

The Importance of Tuberculosis

Almost all authorities hold that the great majority of cases of human tuberculosis are due to infection from previous human cases. The writer firmly believes that systematic isolation and sanitation would render tuberculosis a comparatively rare disease in a generation, especially if combined with the inspection of cattle and general supervision of sanitation of dwellings and public buildings already begun. But, without any such general, systematic attack upon this problem it is reasonable to assume that the incidence of the disease could be reduced 50 percent merely by ordinary care and decency in the care of discharges. It should be noted that this claim is not tantamount to saying that half the cases at present are due to neglect of disposal of sputum. Such a claim might perhaps be defended and, if shown to be true, there would be a 50 percent reduction in tuberculosis for each period of average duration of a case. In other words, barring what may be termed duplication of a source of infection in any given case, and exceptional susceptibility, the deaths from tuberculosis would be reduced to 1-2, 1-4, 1-8, 1-16, 1-32, and so on, of the present rate, in approximately 2, 4, 6, 8, 10 years.

While it seems probable that, under any conceivable precautions, there would exist a specially susceptible fraction of the population which would keep the disease alive, it is not impossible that the disease might be practically exterminated. At any rate, such an event, with our present enlightenment,

appears no more impossible than the extermination of leprosy from Europe in the middle ages when there was no scientific and only the crudest empiric basis of sanitation. In referring to railroad mortality as half

preventable, we are well within the general consensus of popular opinion based on investigation of individual disasters. In general terms, the same applies to other violent deaths.

AN AMERICAN DOCTOR IN BOLIVIA

The difficulties of securing a license to practise medicine in Bolivia, with the author's personal experience. Also, his experience in the treatment of disease at very high altitudes

By CHARLES W. FOSTER, M. D., La Paz, Bolivia

SEVERAL interesting accounts having appeared in CLINICAL MEDICINE from time to time in regard to life in the warm parts of the tropics, a few lines from one of the cold portions may not be without interest.

Last September I went into La Paz to take the examinations necessary to secure a Bolivian degree of Doctor of Medicine, without which a license to practise will not be given a foreign doctor, except to those from Peru, Ecuador, the Argentine Republic and Paraguay, with which countries Bolivia has treaties for the reciprocal recognition of professional degrees.

Medical Courses and Examinations

The medical course here extends over seven years, although I doubt if there are more actual recitations than in a four years' course in the United States. In such studies as botany, zoology, physics, chemistry and histology the minutest details are memorized; but practically no laboratory work is done. The students scarcely ever look through a microscope or handle a test-tube. By serving as internes during a considerable part of the course they gain practical hospital experience.

The law governing examinations is changed almost every year. When I took them, there were three tribunals, one consisting of three druggists forming the Tribunal of Pharmacy, another of three physicians forming the Tribunal of Medicine, and

the other of three surgeons forming the Tribunal of Surgery. The Pharmacy Tribunal examines on botany, zoology, chemistry, physics, pharmacology, toxicology, etc. The Tribunal of Medicine has about thirteen subjects, and that of surgery about eight.

Each of these boards holds an oral theoretical examination that is supposed to last two hours. According to law the examinations must not be less than two days nor more than fifteen days apart. At the beginning of each scholastic year each professor has to prepare a "cuestionario," or program, covering all the topics in each subject he is to teach. These topics are numbered and one number is drawn by lot for the examination question on that subject for the annual examination and also for the final examination for degree at the end of the seven years' course.

After the theoretical come two practical examinations in the hospitals, one in medicine and one in surgery. In these it is necessary to diagnose two or more cases and prescribe the treatment necessary. Then a thesis must be printed and eight days' notice given before it is read. I enclose a copy of mine, and have to thank the articles appearing in CLINICAL MEDICINE during the last two years for the greater part of the material from which it is composed.

"Making Haste Slowly"

After taking the first two examinations, I had to wait until the regular university ex-

aminations were over, and also some *fiestas*, before I could proceed. One tribunal had to be summoned nearly every day for a week before all three members could be gotten together at once. One would be absent one day, others on other. One would come on time, another three-quarters of an hour late, after the first had gone home, etc., etc. Other tribunals were almost as bad; so it took four months to accomplish what would be done in three days at home. After passing the examinations I have to wait six months for the diploma and license.

A doctor coming to this country with a good ordinary knowledge of Spanish and taking a reasonable time to review his studies and learn the technical language would be fortunate to secure his license to practise within a year or a year and a half from the date of his arrival. While waiting for the license and before settling down to regular practice, I am employed as physician for a camp of engineers that are running a survey for a railroad that is to unite the principal cities of Bolivia with the Argentine Republic, and which is expected some time to form part of the proposed Pan-American Railroad that will unite Buenos Ayres and New York.

Medical Practice at a High Altitude

The line near our camp runs along the top of the cordillera that forms the continental divide at an elevation of between 15,000 and 16,000 feet. There are no inhabitants near us, as few of the Indian villages are to be found above 14,000 feet, although the principal cities of the country have an elevation of from 12,000 to 13,000 feet. Some of the highest mines are at from 15,000 to 18,000 feet.

In midsummer here it frequently snows during the afternoons, but the snow does not stay long on the ground. It may freeze as much as half an inch of ice at night in the middle of summer. When the days are

bright it gets comfortably warm in the middle of the day, but as the summer is the wet season it is usually cloudy and cold. In the winter the sky is almost always cloudless, and the bright tropical sun shining into a wonderfully transparent atmosphere makes it comparatively warm, except in the shade, where it is always cold. At night the thermometer will go down to about zero.

In this rare atmosphere oxygen is so scarce that it is difficult to kindle a fire; in fact we only have about half as much as at the coast. Consequently pneumonia becomes the most dreaded disease, although it is not excessively frequent. The climate is generally healthful.

Pneumonia Successfully Treated

Even in the highlands of Bolivia pneumonia, if treated promptly and vigorously, is not hopeless. I rely largely on calomel and podophyllin for the bowels, to be followed by intestinal antiseptics; on strychnine, aconitine, and digitalin for the circulation; and locally the application of fomentations, as hot as can be borne without blistering the skin, for three-quarters of an hour or an hour three times a day. A cold sponge passed over the area every ten minutes during the application of the fomentations serves to intensify the effect. A lung-lobe apparently solid at the beginning of such a treatment will often be found to be permeable to air at its close. In the intervals between these treatments I apply camphorated oil liberally and a cotton jacket to the chest.

There is one doctor to three or four thousand inhabitants in the larger cities here; none in the smaller towns or country, except now and then one in the employ of some mining company or railroad company or of the municipality of some smaller city. The people generally would welcome foreign doctors, but foreign competition is not wanted by the profession.



THE PRINCIPLES OF ALKALOIDAL MEDICATION

A restatement of the basic principles upon which the active-principle movement rests, principles which are of the utmost importance and whose recognition makes for a renaissance in medicine

By WALLACE C. ABBOTT, M. D., Chicago, Illinois

ALTHOUGH we have many times stated the principles upon which the use of the active principles in medicine is based, the constant accession to our numbers of thousands of new recruits compels a restatement of these facts from time to time. Our older readers will remember, that while these things are perfectly familiar to them, the younger men are not conversant with these facts and require to be told.

The Power of Superstitious Ignorance

The use of the active principles in medicine, to the outsider, seems a comparatively trifling matter; simply the substitution of a rather better form of medication for the older ones. Numerous difficulties beset the beginner, especially if he has had some practice, but not much, in the older way. There is a certain degree of superstition in the way we look upon remedial agents which are not perfectly well known to us. Take the natural mineral waters: there is a certain attraction, a mysterious charm about that expression, which is totally lost when we come to consider a manufactured water. However, the natural mineral waters contain such constituents as happen to be in the strata through which that water passes before it reaches the source of exit; whereas the manufactured, or artificial, water contains exactly what ingredients we desire to have in it and in exactly the proportions we desire. Nevertheless physician and patient alike take the natural waters with a degree of satisfaction they do not experience in taking the artificial. The reason is, that the bases of their belief and practice are in superstition and not in knowledge.

The same holds good of the question of the *materia medica*. Ask any physician who has practised for a number of years, whether a

single active principle represents any of the cruder vegetable drugs. He will unhesitatingly reply that it does not; that when you use the crude vegetable you get "something more" in it than its main active principle. It is this "something more" we wish to discuss.

What is it?

Every vegetable drug contains certain "inert" parts, like cellulose, or woody fiber, gum, sugar, etc. None of these inactive ingredients are capable of exercising any known effect upon the human economy. In addition to these it contains one or more so-called active principles, that is, ingredients that do exercise a known effect upon the human economy.

Very many of the vegetable drugs contain tannic acid, which sometimes is desirable and useful, and which sometimes is not desirable. In most cases, where a more valuable active principle is present the tannic acid is injurious, as it hinders the solution, absorption and assimilation of the active principle and may prevent these altogether. Of the other active principles there may be one or more. If only one, that active principle represents practically all the useful therapeutic activity of the plant, as for instance arbutin, a precious medicament after it has been freed from the tannic acid which has enveloped it in the native plant. In other cases there are more than one, as for instance in *hyoscyamus*, which contains *hyoscine* and *hyoscyamine*, two remedies synergistic over a portion of their field but antagonistic over other portions.

What is That "Something Else?"

Now, we say, in every instance where there is "something else" besides the principal alkaloid in the plant, it is up to the chemist

to isolate that "something else" and give it to us, that we may try it, see what it is, what it will do; make such use of it as we find advisable. Deliver us from the realm of uncertainty and mystery, and let us come out into the broad daylight and know exactly where we are standing.

Take *nux vomica*, for instance; here we have strychnine, which practically gives us all of the values for which *nux vomica* is employed. But there is another alkaloid, brucine, in it. This has been isolated, also, and we have found certain qualities in brucine which strychnine does not possess. This renders brucine advisable for certain purposes in which it is better than strychnine. In others strychnine is the better. So that we have here, in using the active principles, the power of using strychnine when we want strychnine-effect, or selecting brucine when its special effect is more desirable, or putting the two together if we so choose. The matter here is entirely under our own control.

When we use the crude *nux vomica*, we are giving some strychnine, some brucine; and, in a general way, we get the effect which we are after. But we never know just how much strychnine or how much brucine is present in any sample; it is a matter of experiment, and the only way of ascertaining it is to "try" it on the patient. When we come to think of it, this method is closely analogous to that of the nurse who ascertains the temperature of the bath by putting the baby in. If the water was too hot the baby turned red, if too cold it turned blue."

Certainty of Active-Principle Therapy

The active-principle method has given us therefore separate agents of wonderful accuracy in the effects which they exert upon the human economy. We can tell what the effect is going to be with a certain dose of strychnine, hyoscine, quinine, atropine, gelseminine, colchicine, aloin with a degree of accuracy which is absolutely an impossibility with the older forms of drugs. We are therefore in possession, for the first time in the history of medicine, of a set of tools which can be depended upon

to do exactly the work we want to have them to do.

Having provided ourselves with these tools, having examined them, rendered ourselves familiar with the qualifications of each, and knowing precisely what each one will do under certain circumstances, we seek for an opportunity to put our new knowledge to work. We find this in the clinical field. We are called upon in the discharge of our duties to attend to the sick. We enter the sickroom and examine the patient, hear the history of the case, hear the complaints of the patient, and we determine to the best of our knowledge and belief what bodily functions are disordered. Our studies are of the living person. This study is illuminated by our previous investigations in physiology and pathology.

But these are only preparations; our science does not stop with these studies but begins with them. Our work, our actual work, is in the sickroom. It deals with the living and not with the dead. It does not even deal with the conditions which are exhibited on the postmortem table, these "ashes of a burned-out fire." We have to do with living subjects; we are called upon to treat disordered physiology, disease-processes in operation that are active and progressing. It is to these we are called to apply remedies, and not to the findings of the autopsy.

Pathologic Engrossment Leads to Nihilism

The basis of this work is shifted from that point by the pathologist. The man who is a pathologist alone is incapable of appreciating our work. He does not know the problems that are set before. There is nothing in his work to give him the slightest intimation of the means of meeting the difficulties whose sad results are before him. This is the reason that pathologic studies lead a man inevitably to therapeutic nihilism. There is nothing in these studies to which he can apply his therapeutics.

In point of fact, the modern skilful pathologist of the present day is not the equal in the sickroom of the old family physician of one hundred years ago, who

scarcely knew what the term "pathology" meant.

Bedside Study is the Thing

We return to the methods of our ancestors in this, that we base our work upon our studies in the sickroom. Recognizing in the patient before us certain departures from the normal condition of function of his organs, we search in our arsenal of weapons for remedies which are capable of correcting this condition and restoring the normal function of the organ affected. Our success here will depend first upon our recognition of the exact diseased state, and our knowledge of remedies; which will enable us to recognize in the conditions presented by the patient the indications for a certain remedial measure which will be effective at the period of disease at which we are called upon to intervene. It is obvious that we can do nothing with a dead patient; just as it is certain that if that patient is dying so rapidly that death will supervene before the remedies for his condition have time to get in their work we are not going to save his life.

If we are not called upon until the disease has effected some material change in the anatomy of the affected part, our work will be tedious. It will then be that of checking the further progress of disease, of encouraging the elimination of the morbid products, and taking away the obstacles which interfere with nature in her efforts to restore the previous healthy condition of the part.

If we are fortunate to be called early, however, while the mischief is threatened but yet has not been accomplished, we are frequently able to put an end to the disease-process before that harm is done; and the patient is saved the tedious, uncertain process by which nature effects a cure. This we call jugulating disease.

Those who are accustomed to intervene promptly and effectively in the very beginning of acute disease are all believers in the possibility of jugulating or stopping its course. Those whose conceptions of the practice of medicine are based strictly upon pathologic findings, are just as emphatically opposed to the idea of the possibility of

jugulating. Both are right. The former can jugulate disease, the latter can not.

I am perfectly aware that a howl will probably go up over these words, but I cannot resist expressing my conviction that the study of pathology to a certain extent unfits a physician for the practice of his profession. The more his conceptions of disease are based upon pathologic findings, the more he is divorced from the clinical aspect. Pathologic studies are sterile; they lead to nothing. To the pathologist the patient is a "subject," to the clinician the patient is a suffering, ailing human being. The pathologist looks upon a "case" as spoiled if an autopsy does not complete the record; the clinician is grieved to the heart if his patient dies.

The Interest of the Patient Paramount

The accuracy with which the effects of a single active principle are manifested, therefore, compels the practitioner to exhibit a like painstaking care in accurately estimating the departure from health in each case. He studies his patient with the most scrupulous care. He is not by any means disposed to limit himself to the naming of the disease. Naming the disease is a secondary matter and may be put completely out of sight. He learns early in his work that the remedies he is studying are not directed at the names of disease but rather at aberrations from health, and that one aberration from health may appear in an innumerable variety of diseases. No matter in which it may present itself, however, the remedy for it remains the same. We may find constipation present in a thousand different affections, nevertheless the indications remain the same throughout. This basing one's therapeutics upon clinical studies has immense advantages to the patient; it has some disadvantages also, for the physician, if he studies clinical symptoms too exclusively and neglects his pathology altogether, may fall into error. This, however, is not likely to be the case.

How about the causal indication? Much has been said about removing the cause of disease, but this is not always possible; besides that, the cause may already have subsided and the disease continues. It does not

necessarily imply that the removal of the cause of disease has anything to do with its cure. A man may be stabbed in the heart with a dagger, but the removal of the dagger does not cure the wound. We have the results to treat, after the cause is removed. Certainly nobody but an imbecile would think of continuing to treat symptoms while an active cause is still in operation, without any attempt to remove it. We are dealing here with real physicians who do not do such things.

Study of Active Principles A Clinical School

The study of the active principles is therefore a school for clinical study. It is a school for bedside instruction. The study is of the living subject and not of the dead. It is living anatomy, living physiology, living pathology, which we study. We see disease-processes during their active operation, not simply in their results. We learn to use our remedies, thrown into this swiftly passing blood current, and to judge with our own eyes of the effects which are manifested before us.

We are not seeking to belittle any of the allied branches of our profession. All that we are objecting to is the insistence on the part of our pathologic friends that their work is *all* there is to the practice of medicine, and that there is nothing in clinical observation and experience. Were this true, there would be no excuse for any physician demanding a fee from a patient. It is taking money on false pretenses for a man who does not be-

lieve in treatment to accept remuneration for taking charge of the case.

It is hopeless to endeavor to convince the pathologist of these truths. He takes his stand on a little barren rock in the sea; he will not look to the shore in sight. He will stay on that rock on which his feet are firmly planted, yes, he will stay there until he starves to death. He will urge us not to plunge into the sea and swim to the distant shore, for we may be drowned or there may be no shore there. We reply that there is no special reason in remaining on that barren rock, no good is to be accomplished, and death is certain if we stay there.

The advantages to the physician in a professional and business way commend this method. He is by it restored to his supremacy in the sickroom. None of his competitors can meet him here, for this is his own ground. His thorough study of the patient gives him a command of the case with which no prescribing druggist, no advertising quack, no Christian scientist can compete. Nothing ever gave the older physician such a hold upon his families as the conviction they were under that he "understood their constitution." The same principle, applied in a moderate degree, holds good here; and the physician is able to dominate his case, because he is worthy of it. He deserves to dominate it. He is a man who knows.

Our first object as physicians is to cure. A method which compels us to study more thoroughly our drugs and our patients can not be far wrong.

LITTLE do ye know your own Blessedness; for to travel hopefully is a better thing than to arrive, and the True Success is to labour.

—Robert Louis Stevenson

THE ALKALOIDS IN THE GUATEMALA HIGHLANDS

The work of a medical missionary among the Quiche Indians, with a record of some very interesting experiences in practice among these strange and primitive people

By CARLOS F. SECORD, M. D., Chichicastenango, Guatemala, C. A.

LOOKING at evangelical missionary effort from the point of view of a mere civilizing work, it deserves the hearty sympathy of all educated people. But, for those whose faith is anchored in the infallible word of the Living God (the Holy Scriptures) it is a work whose results will only be fully known in the world to come.

Eight years of continuous service among the great aboriginal race of the highlands of Guatemala, and among the offspring of Spanish and Cuban "marriages," have given abundant proof that the Lord Jesus Christ is the same "yesterday, today and forever," and that He honors simple trust in His Word, be it ever so weak. As the Apostle Paul wrote in 2 Cor. 5:10, "As poor, yet making many rich, as having nothing and yet possessing all things," so we can, in part, apply the same word to ourselves.

The Work of the Medical Missionary

There is no doubt but that the medical missionary has a great advantage, and the dense darkness of ignorance and superstition gives way to his persistent holding forth of the Word of Life, recommending the gospel to all men by more or less skill in treating the multiplicity of diseases which follow the utter disregard of nature's laws.

After the long period of brutal and demoniacal opposition with which the missionary is met, the work takes the impress of his character and the converts unconsciously participate of the same. When a practical, economical, consecrated, loving wife is united with him, as in my case, more than half the battle is won.

For a long time after the establishment of this mission we were without friends, the well hated us, the sick feared us, and it was

confidently stated that our object was to kill people and deliver their spirits to the devil. For a time no one would listen to us; no one would visit us. The roof of our rented home was partially destroyed several times, various attempts upon our lives were made, the government was petitioned to expel us from the district "because we en-



A Red-Pepper Merchant

deavored to change the customs of the people," and even the wizards were called upon to "bewitch" us. All efforts failed, and after a successful operation upon a hand transfixed by a skyrocket, confidence slowly took the place of fear, and today with a roomy mission station, composed of dispensary, chapel, etc., neither the town nor the state would desire us to leave.

Sun- and demon-worship is largely practised by the Quiches among whom we labor, and stone altars are numerous. The wizard-priests are greatly feared by the people and are our most determined opponents. The Indians are very industrious, and besides farming and sheep raising, weaving and almost all the useful trades are represented among them. The photographs which accompany this article were taken by an educated Quiche convert of this mission.



Giving the Hypodermic Anesthetic

Rum drinking is very prevalent, and as it is distilled from cane-sugar and wheat bran, it is cheap. The people are fast becoming demoralized by this vice and unless steps are taken by the government against it the country will suffer irreparable damage.

The Home and Family

We have two houses, three good dogs, cats, a parrot, a flower garden and various other things which enable us to live in a civilized way. My horse is also famous, as he rolled down a mountain side with me one day without damage to either of us. My glasses did not even fall off my nose. It is not every horse that can fall so favorably.

We have an earthquake or two from time to time, but in exchange have no blizzards nor cyclones, though we sometimes see frost

in December and January, during our "summer," or dry season.

My wife has taken three children to raise. One little girl was received semimoribund from malaria and dirt eating, her parents having died on a coffee plantation south of here. They are all quite useful to us, and, like the parrot, speaks English, Spanish and Quiche, though the first language is not being taught them.

Although the poet says, "'Tis music that tames the savage breast," etc., here the alkaloidal granules have tamed more enemies and made it possible for us to carry large quantities of active drugs from place to place; and as there are many distinct climates in this country, from cold to heat and from wet to dry, Abbott's energy has given us unalterable therapeutic agents under all conditions.

The medical work of this mission is quite extensive, and we are called upon to treat almost everything, even the belly-ache of their horses. The natives have their own way of treating sickness, chiefly by taking a steam-bath in a small earthen oven by means of water poured over hot stones, and with a fire kindled in the small doorway. I make use of this custom in rheumatism by prescribing the vapor-bath with cold water and a good rub afterward.

Treatment of the "Evil Eye"

I was called one day to see a little child which had been unsuccessfully treated by a witch for the evil eye. Her treatment was to grease the little sufferer with oil and rue to dispel the evil influence. No self-respecting demon would long withstand the vile stench of the rue, but what the child really had was pneumonia. Buzzard soup is another favorite prescription of the ignorant,

and if that does not kill them they cut a black chicken in twain and bind a piece on the sole of each foot. If, in spite of all this treatment the patient lives, the divining stone is



Fallen Idols

consulted as to what other "remedies" shall be exhibited. If the sufferer dies, the family and friends get drunk as a religious duty in the full consciousness of having done their utmost.

A favorite prescription for children who do not learn to talk quickly is for the father to purchase a small bread, present it to some parrot, gather the crumbs with great care and give them to the child to eat!

On the other hand, if these people do not know much about sickness, they have a certain knowledge of plants, and I know a young man who for years has been a maniac, made so by drinking a decoction of some plant. Snake-bites are also cured by chewing and by application to the wound of certain parasitic plants, bruised.

According to the district are the customs of the people, but chilies, that is, red peppers, are universally eaten. Some families use several pounds a week. When a "green" foreigner takes a mouthful of some tempting dish there is weeping and gnashing of teeth

until the capsicum effect wears off, and afterward he politely asks about certain dishes before diving into their fiery contents. Experience is a great teacher. Tobacco and quicklime are chewed by the Indians of certain towns, the lime being rolled into a piece of tobacco and then masticated. Bladder diseases abound among those addicted to this vice.

The "Green" Apomorphine Tablets Used in Poisoning

The little "green" apomorphine tablets some are so afraid of give but good results in my own hands. I was riding along one day to a town several days' journey from here

and stopped for coffee at an Indian hut by the road. An old Indian and his wife were drinking rum mixed with coffee, but



A Broken Shoulder

I missed a bottle of tincture of iodine I was carrying, and upon investigating the stains on their lips it was evident they had drank the iodine. A little green centigram-tablet of apomorphine in the arm of each one

caused the ancient couple to roll in the grass and brought up everything they had inside. A little starch water afterward fixed them up all right. Another case was that of a girl who swallowed about 0.15 Gram of sulphate of strychnine in meat prepared for dogs. The severe convulsions ceased soon after the hypodermic of apomorphine and recovery was speedy. I have also used injections of pilocarpine, with good success, in



An Ancestor of the Darwinites—Eaten by the Doctor and His Party

strychnine poisoning. Another case was that of a woman who tried to swallow a piece of meat without chewing—

It lodged in her gullet
And she couldn't pull-it,
Nor could she poke it down;
But a little green granule
Made her mouth full
Of the beef she had not chawn.

(With profuse [imperative!] apologies to the "poets" of the CLINICAL MEDICINE "family.")

Still another case where apomorphine was brilliantly successful was in an attack of convulsions brought on by a fit of anger.

To cure the nail-biting habit in a little girl I injected a drop of a solution of quassia in the point of each finger, with instructions not to wash her hands for a week. It was "dose enough."

Using the Anesthetic Tablets

The hyoscine-morphine-cactin tablets are used almost daily in our work. A physician from a neighboring state, who witnessed their use in an operation on a weak woman, was greatly surprised at their action, though he thought her long sleep afterward was a sign of collapse. However, when she awoke free from pain and discomfort, with no recollection of the ordeal, he was anxious for me to give him a supply of tablets, which I did.

Another most interesting case was that of a weak old woman with dementia. When I visited her she had not opened her mouth for fifteen days to take food or water, and for five days and nights had been violent. A whole tablet of the hyoscine-morphine combination gave her a thirteen hours' sleep. The next day I repeated the dose, with the same good results. The acute mania did not return, but she lapsed into a condition of passive dementia, utterly refusing to open her mouth. For several days I gave her food by the rectum, and strychnine, nuclein and duboisine hypodermically during the day-time, and a half tablet of hyoscine-morphine-cactin at night. Tiring of so much work and noting a great improvement in her general health I told her I should put the tube down her throat if she would not take the food and medicine voluntarily. She was not from Missouri, but I had to show her, so inserting one of Dr. Sourwine's rectal dilators between her teeth I introduced the tube and threw a mixture of milk and eggs directly into the stomach. Once was enough, and as she consented now to use her mouth for what it had been made for, she made a perfect recovery under the use of the strychnine and phosphorus compound granule, nuclein, and a generous diet.

A Desperate Case of Pleurisy

In a desperate case of pleurisy contracted by an old man while sleeping in

the open air to care for a pile of corn, I used centigram-doses of aspidospermine hypodermically for dyspnea; hyoscine, morphine and cactin for insomnia and pain, hypodermics of nuclein; apocynin, bryonin, the defervescent compound, and arsenic iodide. When asked the name of his sickness my answer was, "avaricia chronica"—chronic avarice.

Two cases of epileptic fits, a man and a woman, were cured by large doses of podophyllin, calomel and salts, followed by two Grams of thymol in divided doses during the day.

During the epidemic of typhus only three, who would not obey my instructions, died. Purgatives of epsom salt every two days, and 2-drop doses of creolin every two hours was the prescription, on account of its cheapness.

As Mark Twain wisely said, if he were to practise medicine he would begin with a barrel of salts. We have caused the sale of magnesium sulphate, in this town alone, to increase from a few pounds a year, before our arrival, to 300 pounds a year—and still on the increase. For personal use and for certain patients we prescribe the effervescent salt, but the great mass get plain "salts."

Some Enormous Goiters Cured

We have cured some enormous goiters. They are known by the "classic" name of gueguechos (pronounced way-way-chos). Some are round while others are so long that their owners carry them inside their shirts. The form of these common articles of dress

(the goiter) depends upon the style of the town where they grow. Iodine externally, with epsom salt and iodine internally, causes them to shrivel away, and at times the only remaining sign of their former residence consists in the wrinkled skin.

Among the photographs sent you is one of a female monkey, killed and eaten by myself and companions during an evangelistic and botanic trip to the hot country north of here. If CLINICAL MEDICINE has any of Darwin's disciples among its readers I must here condole with them for their great loss, for we made several good stews of one of their relatives. Monkey meat is very appetizing, if someone else kills the animal, but as it jumps from tree to tree with great rapidity, the hunter must aim quick and true to bring one down. At one point on the great Chajul river, near the Mexican line, monkeys are so numerous that one band consumed an hour in passing a certain point.

Among the other photographs sent will be seen the examination of a broken shoulder, which was covered with rags and pine pitch, and the giving of a hypodermic of hyoscine, morphine and cactin preparatory to setting same; an Indian with his incense pot and fire, worshiping according to ancient custom, at daybreak; a young Indian boy standing beside fallen idols, which is a vivid representation of the power of the gospel; one of the meat markets of the town, the meat hanging outside and the view almost ruined by the clouds of dust for which the month of March is famous here.

A PREACHMENT

BE kind; it makes your life like a June day, attracts friends and confounds enemies.

Be just; you never can tell how soon the fellow to whom you are unjust will have the screws on you.

Be joyous; there is but one life to live and to miss having had any gratification out of it is a calamity, indeed.

Be true; then you may expect others to be true to you.

Be sincere; others noting your sincerity will give their confidences and be likewise sincere with you.

Be thoughtful; the iron enters the soul in after life when we have been neglectful of those who loved us.

—Byron Williams

CIRCULATORY DISEASE, APHASIA, PARALYSIS

The relation between some cases of the latter conditions and the former, with the description of an instrument for the measurement of blood-pressure, and an outline of treatment

By LOUIS FAUGERES BISHOP, M. D., New York City

Professor of Heart and Circulatory Diseases, Fordham University School of Medicine;
Physician to Lincoln Hospital, etc.

IT IS a pity that the rather crude conception is prevalent that an attack of apoplexy and its resulting damage to the brain is a local affair, involving sclerosis of a single artery and its final rupture. This is undoubtedly true in a few cases where there is a localized sclerosis that gives way, but even this sclerosis is probably the result of a preexisting tension.

A much truer and more satisfactory conception of apoplexy is that it is a local failure of the mechanism of the circulation, secondary to a general disorder of the whole circulation.

Every machine, when overtaxed, gives out in some particular point and does not go entirely to pieces in every direction at once. The part that is most under strain is the part that gives out. In the human machine strain very often leads to inflammation, so we find not a few cases of paralysis due to inflammation of a blood-vessel, leading to thrombosis, and that there is no rupture at all. This is particularly true in those cases which are the result of prolonged nervous strain and which occur at a time of mental over-work. The patient who develops apoplexy as the result of overeating and drinking and who has a sluggish brain is more prone to be the subject of a ruptured blood-vessel.

Circulatory Disease and Paralysis

The relation between circulatory disease and paralysis is as follows:

The individual working for a long time under a strain of some occupation, which exceeds his normal capacity of mental work, develops a chronic exaggeration of

that influence which is designed to maintain a suitable tone in the circulatory apparatus. As a result of this there is a contraction of the peripheral circulation so that in order to circulate the blood properly the heart must work harder and maintain an exaggerated blood-pressure. The heart becomes hypertrophied and finally degenerated so that there is an irregularity of the circulation. During this time there have probably developed local changes in the blood-vessels due to strain. Now at some particular time the demands upon the brain lead to a vascular irritation that results in inflammation. This with the irregular circulation predisposes to thrombosis.

When thrombosis occurs, the part of the brain involved, which is very likely to be the part of the brain that has been actively called upon, is deprived of its blood-supply and there results at least a temporary loss of function. In this type of cases the left side of the brain, which is the seat of the intellect, is most often involved, and we have aphasia and paralysis of the right arm and leg.

This view of the development of paralysis explains what has often seemed mysterious, namely, the relatively frequent involvement of those parts of the brain which are the seat of volition and the intellectual faculties. Considering the bulk of the brain, lesions in other locations are surprisingly few.

High Blood-Pressure and How to Measure It

Almost all cases of acute blood-vessel damage are preceded by high blood-pressure, and this should be a matter of constant observation by those who attempt to study these subjects. I now use an instrument

of my own devising that has freed estimation of blood-pressure of all its complications, so that with this machine hanging over my desk I can measure the systolic blood-pressure in less time than is needed to take a temperature.

The simplified instrument consists essentially of a red armlet, 15 cm. wide and 4 cm. long, made of strong material. This armlet, or cuff, differs from the Rivi-Rocci armlet in its greater width and in the fact that

is connected a white tube, 60 centimeters long, and to this a blue tube and a blue bag measuring to the center of the bag 136 centimeters. Connected to the blue bag is a cord passing through a pulley of special construction.

This pulley is so constructed that it can easily be hung at a height by means of a cane or similar implement. I have also devised a special scale which is attached to the bag at the level of its contents and which is used to measure the height of the bag above the patient's heart as hereinafter described. The instrument can be rolled up and carried in the pocket and is used as follows:

How the Instrument is Used

The tube is separated at one of the connections between the different-colored tubes and the air is drawn out of the two bags by suction by placing the ends of the tubes, one at a time, in the mouth. The bags are now placed on the floor and the ends of the tubes plunged in a basin of water and about 14 ounces allowed to syphon into the bags. The ends of the tubes are now rejoined under water so that no air can enter. The red cuff is now lifted up so that all the water runs into the blue bag, which is left on the floor. Then the armlet is placed around the arm of the patient in such a manner that the part containing the bag comes on the inside of the arm. The pulley with the cord through it is now attached high up to a picture molding or some other convenient object, and the bag is hoisted slowly until the pressure of water that flows back to the cuff has compressed the brachial artery and obliterated the pulse at the wrist.

To find the exact point at which this takes place, it is better to lower the bag until the pulse is distinctly felt again, and then raise it, two inches at a time, counting ten beats of the pulse each time until the pulse disappears. If at this point the white tube is opposite the level of the patient's heart, or the level of the cuff, which is practically the same, having the patient in a sitting position, the patient's blood-pressure is



Dr. Bishop's Blood-Pressure Apparatus

the rubber bag occupies only a part instead of the whole armlet. The advantage of this latter arrangement is that the rubber bag, when expanded, compresses the artery against the bone rather than to surround the whole arm, which method proved to be painful. Connected with the cuff is a red rubber tube 203 centimeters long. To this

within normal limits. If the blue tube is opposite this level, the patient has a sub-normal blood-pressure; if the red tube, the patient has an increased blood-pressure.

In order to measure the blood-pressure in terms of millimeters of mercury, my special scale is attached to the blue bag at the level of the water in it, when the apparatus is in operation, and the figure on the scale at the level of the heart when the pulse disappeared indicates the blood-pressure in millimeters of mercury.

I have tested this apparatus with all kinds of cases and compared them with the standard instruments and found that its readings were correct. I find that a closer reading is possible with this instrument than with the other instruments on account of the absence of fluctuations and the greater length of the scale. This is particularly true in low-pressure cases. The instrument is particularly convenient for detecting the cases of blood-pressure that fall into my classification of blood-pressure cases, into primary low-pressure cases, high-pressure cases, and secondary low-pressure cases. It can be used with accuracy up to 325 or more millimeters, which is usually impossible with the air-mercury machines. In these unusual cases, by using the instrument where there is a stairway or in a very high-ceilinged apartment, the necessary elevation of the pulley is obtained. (The accompanying illustration, page 775, shows the instrument in use.)

The Indications for Treatment

Indications for treatment are found in the history of development of disease and the nature of the local accident. In a case in which the aphasia is not very marked and the paralysis only slight, a great deal can often be accomplished.

Iodide of sodium properly administered has an almost specific influence in improving the local condition. It should be persisted in from the beginning. The general circulation must be regulated in the first place by the removal of the overtone, and in the sec-

ond place by the restoration of the heart. The overtone is best treated in the beginning by the administration of nitroglycerin at such times in the day as it may be needed. Our own very definite experience is that nitroglycerin is frequently badly borne in the morning while it is very useful in the afternoon. This is combined with digitalin, which is often administered in the morning, and other appropriate drugs are used to meet special physiologic indications pertaining to the liver, etc.

Equal in importance to drugs in the cure of hypertonia and the restoration of the heart is exercise. The nervous function which presides over the maintenance of tone in the blood-vessels is closely allied to that which presides over the maintenance of tone in the voluntary muscles, so that anything that improves the health of the voluntary muscles tends to the correction of overtone in the blood-vessels. Outdoor exercise, such as walking, does very well, but there is an undoubted advantage in the resistance exercises, as they seem to have a greater influence in this matter of tonus.

The diet should be very simple, without sweets and red meats. Mental efforts of all kind should be limited as much as possible.

This Treatment Successful in Practice

Under this plan of management we have had the satisfaction of seeing a number of patients recover from various degrees of aphasia and paralysis and who lead very comfortable, although of course, guarded lives.

More satisfactory still have been those patients who have come under observation before a serious accident has happened and in whom a recognition of the tendencies and an adjustment of the influences have led to prolonged usefulness.

This has happened even in cases where a slight clumsiness of a limb or a temporary loss of words or an attack of confusion of mind, or even a temporary unconsciousness have been the warnings. Months before these things appeared it is perfectly possible for one familiar with circulatory disease to have detected overtone in the circulation.

A STUDY OF THE PRINCIPAL ALKALOIDS

With reference to their periods of absorption, the duration of their action and their routes of elimination from the body. A continuation of the paper in the February number

By J. M. FRENCH, M. D., Milford, Massachusetts

ACONITINE is rapidly absorbed by the tissues, and is largely destroyed by oxidation, disappearing from the blood, so that its medicinal effects do not last long, and it may be administered in small doses at frequent intervals. The effects of a full dose last for three or four hours.

The effects of a poisonous dose are thus described by Hookma Tresling: "The dose (3.6 milligrams of crystallized aconitine) was taken at half past four in the afternoon, just after a meal. At half past five the patient was very ill. He grew worse, and died at nine o'clock, four and one-half hours after taking the dose."

In relatively large doses death occurs very promptly, and if given hypodermically, the fatal result may follow in less than a minute.

Shaller dissolved one granule of amorphous aconitine (grain 1-134) on the tongue, and at the end of three minutes felt a peculiar numbness at the point where the granule had dissolved. At the end of fifteen minutes this slight numbness or feeling of heat had gradually extended into the fauces and pharynx. These sensations lasted over an hour.

Aconitine is excreted mainly by the kidneys in the urine, but minute quantities have been found in the bile and the saliva.

Caffeine

Caffeine penetrates the organism rapidly, its effects are evanescent, and its elimination is rapid, chiefly by means of the bile and the urine.

The more the kidneys are diseased, the slower is the elimination of caffeine. Zenetz found caffeine in the urine fifteen days after its administration had ceased.

Caffeine acts upon the secreting cells of the kidneys, stimulating them and causing diuresis. Both the liquid and the solid constituents of the urine are increased by it, thus proving it to be one of our most efficient diuretics.

Cushny tells us that caffeine is excreted in the urine to a very small extent as such. During its passage through the body it loses its methyl groups, and first becomes dimethyl, and then monomethylxanthine. Eventually xanthine is formed, and this breaks up probably into urea. In the urine are found small quantities of the unchanged drug, accompanied by larger quantities of dimethylxanthine, heteroxanthine, and xanthine. The most important property of caffeine from a therapeutic point of view is its power of increasing the secretion of urine.

Caffeine is excreted as such only in small amounts and very slowly by the kidneys. It is largely broken up in the system, and probably passes off as urea. It is also eliminated to some extent by the bile.

Such are the conclusions arrived at by the principal authorities.

Cocaine

Some cocaine is excreted by the kidneys in the dog when it is absorbed into the blood, but 95 percent of it is destroyed in the tissues; and this is the fate of all of it in the rabbit, in which this oxidation proceeds very rapidly. It is unknown whether it is oxidized in man, who is more susceptible to its action than these animals. (Cushny.)

When administered by the stomach cocaine can manifest its effects in twenty minutes; by the subcutaneous method in ten minutes. It appears first in the urine.

It is eliminated by the mucous membrane also. (Liebreich.)

It is absorbed with remarkable rapidity from all mucous membranes, but it cannot penetrate the unbroken skin. Hypodermically its effects are almost instantaneous. A girl of twelve met death in forty seconds from a hypodermic injection of twelve drops of a 4-percent solution. A small amount escapes by way of the kidneys. (Zemp.)

Myrtle reports that he dropped three minims of a 3-percent solution into each eye, when at once the patient experienced a sense of numbness in the back of the tongue and throat, with palpitation and threatened syncope, and also nausea.

Whistler, after the application of a 4-percent solution to the nasal cavity, noted vertigo and threatened syncope.

Baler mentions a case in which the injection of one grain into the gums by a dentist produced death in a few minutes.

It is evident from these statements that cocaine is absorbed with great rapidity, acts promptly, and passes off through the kidneys without any great delay, hence requires to be given in small, frequent doses in order to keep up the effect.

Digitalin

Koppe found that 2 milligrams (gr. 1-33) of digitoxin, a single dose, given to an adult man, caused toxic symptoms, very violent and persisting many days. Megevand took one-third of a milligram (gr. 1-200) of Natavelle's digitalin for six consecutive days. The pulse began to slow on the second day, fell more rapidly each day, the lowest point being reached on the seventh day, when he felt nausea followed by vomiting and headache, intense and persisting until the following day. The pulse had fallen to 48, and it was not until the twelfth day, six days after ceasing the use of the drug, that it returned to its normal beat, 67 to 70.

The same observer for seven consecutive days took a daily dose of 4 milligrams (gr. 1-16) of Homolle and Quevenne's digitalin. On the fourth day came the first fall of the pulse, of five beats; and it was four days

after the cessation of the drug that the pulse returned to its normal rate of 67. Toxic symptoms due to the accumulation of this digitalin were observed by Homolle, as nausea, headache, and delirium. These disappeared after twenty-four hours.

Digitalin is eliminated in part by the kidneys. (Dragendorff.)

Zemp states that the absorption of digitalis is exceedingly slow, no matter how it is given. When given by the mouth, hours and sometimes days may elapse before its full effects are obtained. It is absorbed by all mucous membranes, although it is more or less irritating to them. It is also rapidly absorbed from the skin.

While its absorption is slow, its elimination is more so. Consequently the drug accumulates in the system and may manifest itself suddenly by the onset of toxic symptoms. As it is used in conditions in which the circulation is disturbed, this no doubt contributes to the slowness of its action. How it is eliminated is not positively known. It probably escapes by way of the kidneys, but the larger part is supposed to be oxidized in the system. Digitalis and its active principles cannot be relied on in cases of emergency when it is necessary to stimulate the heart quickly.

Lutze claims that digitalis acts over six weeks.

Shoemaker speaks of the slowness of its action, requiring from thirty-six to forty-eight hours, in reducing fevers, etc.

Potter says that digitalis is slowly absorbed, and slowly eliminated by the kidneys.

While there are a number of different active principles of digitalis, and these may vary somewhat in their rates of absorption and elimination, yet it is not likely that the difference is great. It is evident from all sources that in digitalin—taking this as a representative of the combined active principles—we have a sharp contrast to cocaine. Its action is slow, and its duration is for a considerable time. Its elimination is by the kidneys, at least to a considerable extent.

My chief excuse for presenting these fragmentary statements and partial con-

clusions is found, first, in the belief that, fragmentary and partial as they are, they are nevertheless of value; and secondly, in the desire to call attention to the lack of completeness, the many links in the chain that are lacking, in the hope of leading future original investigators to give attention to the information which now is lacking,

and thus supply the missing links. In a third paper, if able to obtain sufficient information concerning other alkaloids, I shall present it, and also arrange the main facts which have been learned, in the form of a table which will show at a glance what is known and what is lacking in our knowledge of these drugs.

THERAPEUTIC NIHILISM AND THE ALKALOIDS

The experience of a young physician, who has put into practice the principles of treatment advocated by Clinical Medicine and found them good, with some case-reports

By M. SHADID, M. D., Maxville, Missouri

I LEFT college a therapeutic nihilist. All my professors (anatomists, surgeons, pathologists, and even the clinicians), except my professor of therapeutics, were therapeutic nihilists. The surgeons particularly seemed to delight in making fun of drugs, and being by nature a skeptic I drifted into nihilism.

Being a therapeutic nihilist I consistently took no interest in therapeutics, and when I left college I memorized a few prescriptions of iron, quinine, mercury, strychnine, etc., hung out my shingle, and took in the fees—when I could get them!

"Clinical Medicine" as a Therapeutic Missionary

Soon afterward, by mere accident, a copy of CLINICAL MEDICINE fell into my hands. Here by way of digression I may say that it would be well for the management of CLINICAL MEDICINE to forward a sample copy of this journal to every member of the graduating class of every medical school in the land. I mention this because I received none myself and presume that none were forwarded. I glanced over my copy and then read it. Before I finished reading it a change had taken place: I had been a mere skeptic; I became a skeptical skeptic. I had been skeptical toward medical therapeutics; I became skeptical toward thera-

peutic nihilism. It could not have been otherwise. The optimism and enthusiasm and buoyant therapeutic positivism which looms up in every copy of this journal cannot but impart to a receptive mind a conviction that even confirmed nihilists cannot escape.

I subscribed for this and other journals. I took a "cranky" interest in the alkaloids. I bought Shaller's "Guide." The article on aconitine was so paradoxical, compared with what I had been taught, that I at once commenced to try it.

It acted like a charm. In dosage according to Shaller's Rule, given every ten, twenty or thirty minutes till effect, and then less frequently as needed, it never failed. I have used it for the past ten months in sthenic fevers to the exclusion of other antipyretics without a failure. I am aware of possible contraindications, in weak, adynamic and asthenic conditions, for instance, but since I began to use it I have never met with such a case; and by the way—a mere coincidence of course—I have not lost a patient for a year past. During this time, too, I have treated six cases of pneumonia in children, three of which were as typical cases of the disease as ever you saw in your life, and two in adults. Not one of the above cases lasted over five days. Juggulation? You bet!

Aconitine is a great jugulator; under its influence acute inflammatory disease is aborted or shortened. The following is a report of two cases that I have treated:

Case 1. At 11 p. m. I was called out to see an eight-year-old boy. Temperature 103°F., pulse 150, respiration 40. The face was flushed and the eyes bright; countenance was anxious. There was a history of slight chilling that evening. Auscultation showed harsh, bronchial breathing. There was pain in the left side. I prescribed one grain of calomel and one of podophyllin to be given in six doses; a flaxseed-meal poultice to the chest and back every two hours; and aconitine according to Shaller's rule. I gave the aconitine myself till 1 o'clock p. m., when the temperature fell down to 101°F. and pulse to 120. Next morning the father told me that the patient went to sleep shortly after I left and had a profuse sweat. The pulse was now 95 and the temperature 99; the patient up and playing.

Case 2. I was called out at 6 p. m. to see Mrs. E., age 30, mother of three children. She said she had a chill at 3 p. m., lasting an hour and a half. Her temperature was now 104°F., pulse 130, respiration 28. The cheeks were flushed. She had a headache and a pain in the chest. I prescribed calomel and podophyllin and a flaxseed-meal poultice as before, and administered 1-134 grain aconitine for three doses, one every half hour. After the three doses were given the temperature remained at 104.5°F. I might have given the doses more frequently, but that was one of the patients where I thought it advisable (for good reasons) to follow this course. I left and instructed her husband to keep up the dose of aconitine till the temperature fell to 102°F. and then to stop. Three more doses had the desired effect and one hour later the temperature fell to 101°F. Next morning the patient was well, although the pulse was 120 and temperature 99.5°F. She wanted to leave her bed but I insisted on two more days. That night she said she sweat "like thunder."

I believe the defervescence induced is very largely responsible for equalizing the cir-

culation and for the jugulating power of aconitine.

The article on aconitine in Shaller's Guide should be in the hands of every American practitioner of medicine.

The "Clean-Out, Clean-Up and Keep-Clean" Treatment

The "clean-out, clean-up and keep-clean" treatment I practise continually and can say positively that it is applicable in almost every case. In my short experience of medication I have not met a single case or condition of disease where such treatment was contraindicated; on the contrary, it has been an aid to recovery in every case in which I used it.

I have recently been called to see a patient with what I believe was acute cardiac dilation. The temperature was a little below normal, urine very scanty, with pain over the kidney region; heart-beat 60, no valvular murmur. The respiration was labored, breath foul, as were later the stools. Patient 60 years old. As I wanted to try that eclectic remedy I prescribed apocynin; also two plasters over the kidney region to relieve congestion therein; then instituted the "clean-out, clean-up and keep-clean" treatment, using a saline laxative three or four times a day and the intestinal antiseptic. Three days later the patient was up and around. He told me that last year Dr. O. treated him for the same trouble, but he was in bed seven weeks. Dr. O. is a therapeutic nihilist and "let nature take its course"—a very long course, however, and often, too often, a fatal course. The "clean-out, clean-up and keep-clean" treatment in my estimation was in this case as much responsible for an early recovery as the other measures, or more so.

Calx iodata is the remedy for croup and croupy affections, but there is trouble in store for those who expect too much of it. The other night I was hurriedly called to join a priest who was called out to see a fourteen-year-old girl die. At my arrival I found the patient tossing from side to side and trying to get more air into the lungs. The face was pale, the breathing

stridulous and spasmodic, the heart irregular and the patient in a semistupor. I administered gr. 1-20 apomorphine hypodermically. This was followed by vomiting and immediate relief of the dangerous symptoms.

The patient had been ill for two days with a temperature ranging from 99° to 101°F., but with no prominent respiratory symptoms except spitting of blood on the previous evening. I left the patient on iodized calcium, and the next morning, to make sure, I administered diphtheritic antitoxin. I was in the backwoods, else I would not have delayed its administration. The patient recovered. This case illustrates the value of the maxim, "When in doubt, administer antitoxin."

I may go on relating some of my experiences with other alkaloidal and synergistic preparations, such as copper arsenite, calmative for infants, infant's anodyne, the anticonstipation granules, but my object in this article is simply to add my humble testimony, as a country practician, to the efficacy of the alkaloids and to the better method of alkaloidal medication.

The other day I was preaching active-principle therapy to a couple of former classmates, now internes at a city hospital. They seemed to find satisfaction in rehashing some of the stuff said about the hyoscine, morphine and cactin compound in some corporation-ridden medical journal. I let them talk themselves empty, and finally my

parting shot was something like this: "I don't know Abbott personally or what kind of a man he is. I am not particularly enthusiastic over *the man*, as I am no hero worshiper. Abbott may be an eclectic, but I, too, am as much of an eclectic as I am a regular. Among eclectic and alkaloidal remedies there is many a medical gem, and before you leave this hospital subscribe to THE AMERICAN JOURNAL OF CLINICAL MEDICINE and to at least one eclectic publication, say *Ellingwood's Therapeutist*, and get into line. I personally take interest in and read up on eclecticism, homeopathy, osteopathy, hydrotherapy, suggestion, the tissue remedies, alkalometry and Christian science. If you wish to succeed, do the same, and it won't hurt you. Good bye."

[Thanks, Doctor, for the many complimentary things you have to say of CLINICAL MEDICINE and for your endorsement of "the alkaloidal idea." It's this approval, born of success, that helps us to "keep going," to make new friends, in the face of the violent opposition which is constantly being handed to us. It so happens that Abbott is not an "eclectic." He is just as "regular" as his critics, a graduate of the medical department of the University of Michigan. But he has gleaned many useful ideas from eclecticism which he is trying to pass along to THE CLINIC "family." —ED.]

A TRIBUTE TO THE COUNTRY DOCTOR

A poetical testimony to the work and worth of "that uncalendared saint"—the country doctor! Now first printed for the edification of the "saints" of the "Clinic family"

By GEORGE F. BUTLER, M. D., Wilmette, Illinois

Head and Professor of the Department of Therapeutics and Professor of Clinical Medicine, Chicago College of Medicine and Surgery

LET us for a space withdraw from alluring cognizance with metropolitan practice and turn to contemplate the rugged yet heroic career of that uncalendared saint, the Country Doctor—about the

only specimen of the Family Doctor left to us.

No generous plaudits of the multitude inspire, no learned encomium of metropolitan brethren rewards the humble zeal which ani-

mates his labor. Through scarce-trodden wilds his urgent path is hewn; the elements of nature serve to invigorate his lonely thought and experience, and only the noblest humanity and a brave self-reliance mold in him the grace of a resourceful energy. His motive is pure; his courage indomitable; his moral stature commanding. The sternest verities of life have confronted him in the exercise of a profession embracing the highest service to mankind. It is the Family Doctor's glorious mission to dispel the gloom which shrouds the shadowland of disease; to nerve with benignant hope the prostrate and forlorn, and by his magic touch revive the wasted energies of fellow-man. From birth to death, from the cradle to the grave, no human being stands to us quite in the commanding relation of the Family Doctor. Nay, as by an angel-presence, it is his to shed a ray of serenest comfort in many a distracted household; to illumine the desolate places of earth, and disperse the gathering clouds which no spiritual comiseration can wholly exercise.

I see him now, of grave and reverend mien,
The country doctor perched aloft in chaise
Of antique pattern and with stately march
Wending his way to minister to them
Who patiently await his coming. True,
His guise is homely, but a light serene
Beams on his godly countenance and illumines
The simple zeal that stirs his aged pulses—
As sunlight crowns some venerable structure,
Tinging its rugged outline with a grace
Made lovelier by contrast.

Nature, too,
Seems conscious of the wonted guest, and o'er
The lonely visitant her mantel spreads
Of silent benediction, while aglow
With woodland treasures earth in floral gems
Breaks at his feet.

And this is he whom Science hath endowed
With the high gift of bearing unto men
Tidings of hope, of soothing mortal pain,
And unto many a Lazarus speaking words
That wake him from his torpor. To his thought,
Imbued with human feeling, there is none
Of all his kind that doth not claim his care,
In all the world no fellow-man so low
As to repel his tender sympathy.
True, on the worldly side, his ledger's page
Shows many a mournful deficit, and care
Has furrowed his quaint cheek and laid its hand
Full heavily upon his lonely life.
Still, in his heart there glows a steadfast fire
That moves him to the task which he has chosen
And tinges all his acts with nobler aim,

Calming his days with thoughts of pure endeavor,
Transfiguring the humblest deeds of his career.

And now his weary pilgrimage is o'er;
Across the meadow lies the quiet spot
Sacred to human suffering. 'Tis over,
And eagerly the good man hastens on
Towards the cottage where the light of love
Kindles a holy fire. Ah, guard ye well,
Sweet ministers of mercy that fine fervor;
That, moved as by some gentle miracle,
His skill may summon consolation's balm,
And the dread thought of pain at last be stilled.

How lovely lies the fevered maid,
The flush of subtle pain
And sorrow of deep suffering
Tinging her desolate thoughts beguiled
By tender ministrations. Closely cling
To that young life, ye Fates, and bid her smile
again!

Beside his charge the doctor bends to note
Her labored breathing; marks the comely face
And trembling tears that linger on the lashes
Of her closed eyes; softly strokes her hair,
And marvels long that one so beautiful
Should be thus stricken—for he knows too well
The scorching grief of many a Magdalen;
And his great, loving heart is bowed with pain—
"Who is without sin among you," he remembers;
And all his generous feeling breathes in prayer.

She wakes: the pride of youth illumines her face—
"And honor gone!" She murmurs, "Say not so,
Guardians of grace; it shall not be so soon—
Yet I do love him—were I trebly lost
That kiss would still enchant me." Then she
looked,
And saw as in a vision the good man
Bowed at her bedside, and her speech grew calm
As in his rugged palm she laid her hand
And sought to show by childish, loving ways
The softening influence of her strong emotion.
Perchance no sedative but death could soothe
Those shattered senses or the wild despair
With which her feelings wrestled; yet afar
She knew the heavenly token of forgiveness:
"Hath any man condemned Thee?" "No man,
Lord!"
And with a wan smile closer still she crept
And laid her comely head upon his breast
In silent benediction.

On the hillside
Where springtide blossoms hallow the rude spot
And gathering woodbirds chant their matin hymns,
A simple headstone marks her humble rest,
Bearing the brief memorial of her years,
And the profounder tribute, "She loved much."
Pause, stranger, by a shrine so eloquent;
The anguish of her lot commands your pity,
And this secluded earth is venerable
E'en through the sorrow of her early years.
The windflower creeps to grace her nameless dust;
The heaven is blue above her, and the winds
Sigh tenderly in loving requiem.
The hapless fate that overwhelmed her spirit
Compels a pure remembrance. By her pain,

Even though scarlet, are her sins forgiven,
And the soft air that breathes above her rest
Seems wafted by the angels.

Go thy way,
And in the darkness of a sheltering gloom
Perchance a gentle voice shall call to thee,
Blessing with passionate utterance of woe,
And nevermore shall night of gloom enfold thee,
But thou shalt bear her story reverence,

And grow to understand that boundless grief
And the nobility of soul that moved
The gracious charity of her steadfast friend.

So lowly clay semblance of the divine
Assumes; so, fired with tender zeal,
Mortal in godlike guise doth make appeal
To human hearts. O'er speechless pain doth shine
The morning of a blessed avatar
Bend, ye blue heavens, to greet him from afar!

THE THEORY OF HOMEOPATHY

This article is the synopsis of lectures delivered at the
New York Medical College for Women, in 1907.
It gives a complete outline of homeopathic doctrine

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II

ONE may say that if we inject into the absolutely healthy body of some animal, for example, an overwhelming number of tubercle bacilli, it will develop tuberculosis. It will, and it will die, as it also would from the blow of a club or a rifle bullet, for vitality has its limits of resistance.

Man is born with a vital force which may be compared to the mainspring of a watch; it is doomed to run down, and the vigor of youth will inevitably pass into decadence and senescence as the imparted tension relaxes and the elements call for transmutation. An old woman, past the century-mark, said to the physician who was laboring to keep her alive: "Doctor, my body yearns and calls for death as it used to for sleep. Do not hinder me."

The Direction of Homeopathic Science

But we are not discussing natural senescence; such death is as natural as birth. Homeopathic science is directed against two things: First, the condition of receptivity; second, the condition of receptivity plus infection. To illustrate the first, let us observe a child considered healthy by its parents: it plays, eats, sleeps about as other children do, but to the homeopath the child calls for calcarea carbonica, and if it gets it, will be spared probable illness and possible death

The same child, ill with diphtheria or other infection or trauma, moral or physical, falls into focus as an illustration of the second condition.

Disease, then, is not an entity, but the receptivity of the individual (always, and necessarily, individual) plus the proximate cause: bacillus, bacillary toxin, or what not. The bacillus, or its toxin, is a constant factor; receptivity, or the condition of vitality, varies in each case; therefore the disease can be recognized therapeutically, only through the totality of symptoms, even as a chemical change is ascertained by the totality of its reaction alone. Therapeutically, also, in infectious diseases, where we have a constant factor, clinical experience has delimited the choice of the remedy in the vast majority of cases to certain groups: the diphtheria group, the typhoid group, the scarlatinal, rubeolar, and other groups, and prescription in acute infections is commonly more easily made than in chronic diseases.

Modern science (nonmedical) is arriving at some hitherto strange conclusions regarding this thing we call "matter." Renan once said: "Matter and spirit approach each other in the infinite," and, had he been a homeopathic philosopher, might have added, "or, in the infinitesimal." Matter is no longer looked upon as something dead, inert; the very stones have life, and the atom has given place to the concept of the electron,

negative elements whirling about in a sphere of positive influence. This form of energy, or matter, approaches closely enough to what Hahnemann termed the spirit-like, or dynamic, principle, to rehabilitate the homeopathic philosopher in the vision of modern science.

Contrast Hahnemann's Organonic philosophy, or inductive science, with modern theories, with the uric-acid theory, with the carbon-dioxide theory, and numberless others, with their confusion of end-products with exciting causes. Note also the practical benefit derived from many of the treatments enforced by the builders of these theories; beneficial because the patient is compelled to return to a diet, hygiene, exercise and life approaching nature; and the best of these theories are those where drugs, as used by the old school, are taboo. In so far as such theories tend to foster preventive medicine they are harmless, even excellent; but do not confuse them with the exact science of therapy.

What the essential nature of the action of the homeopathic remedy is, does not enter into practical therapeutics, and Hahnemann says: "As this law of cure manifests itself in every true experiment and observation, the *fact* consequently is established; it matters little what may be the scientific explanation of how it takes place." This is contrary to much in old-school medicine, where scientific explanation is the thing, while facts may take care of themselves.

2. *Pathogenesis, or Drug Disease*

To observe keenly, diagnose accurately, and interpret correctly the phenomena and essential composition of disease, would be scientifically interesting but therapeutically thankless if we must go empty-handed to the bedside. To know the how and why of disease without being able to apply suitable remedial agents is like asking a jeweler to repair a watch (whose mechanism he may well understand), at the same time taking from him his delicate and suitable instruments. Hahnemann put this therapeutically when he said: "The first and chiefest duty of the physician is to heal the sick."

In his anxious endeavor to relieve the patient, Hahnemann exalted therapeusis over what we term "clinical diagnosis." This was pardonable. If we recall the comparatively recent introduction of such simple matters as auscultation and percussion into medicine, to say nothing of the host of microscopic, chemical and instrumental procedures which the modern clinician demands, the old man may be forgiven a few imperfections. Nobody was much on diagnosis in Hahnemann's day, and as for treatment . . .

"Dies ira, dies illa.
Solvit saeculum in favilla."

It is the essential glory of Hahnemann that he wrought out the concept of testing each drug-substance simply and singly upon the healthy human organism. If we meditate a bit, we shall apprehend how impossible it is to get the delicate reactions of vitality against a morbid agent other than by this method. How else is any disease diagnosable, clinically verifiable. Animal experimentation can never be more than corroborative of certain gross or microscopic lesions, and even here objective phenomena vary often with the species. Thus, lethal belladonna has no poisonous action whatever on goats and rabbits; on the carnivora it acts with moderate intensity; on man with the greatest intensity.

If a drug-substance be given to a diseased organism, the results are practically valueless in other cases because of the disease complication which obscured the reaction; if we administer two drugs we have an additional complication. If we give two or more drugs simultaneously to the healthy organism, we learn little or nothing about the reaction against the individual drugs. And, if there be a law which governs and intercalates the two series of facts presented by the drug-pathogenesis and the disease-pathogenesis, a law which has been demonstrated and may easily and always be demonstrated to be practically useful, why disregard it and cast off the greatest factor in scientific therapy (so far as drugs are concerned)?

Homeotherapeusis is the most practical system of drug-therapy not because Hahne-

mann said so, but because Nature said so, of whom he was a most faithful interpreter. Hahnemann was no theorist; he was a scientific observer in his field of work and an inductive logician.

3. Primary and Secondary Effects or Actions

This division is naturally derived from the preceding... The two sets or series of drug effects, or, to speak more accurately: the primary drug-effect; the secondary vital reaction, and their relation with the phenomena of disease afford us the derivation of the two known laws governing therapeutics: the homeopathic, individualistic, specific; the antipathic, or generic.

If we administer nux vomica in sufficient strength to the healthy organism, we get primarily excitation; after a certain period the vital force reacts in an effort to recuperate the lost energy, and paralysis or torpor results. Gelsemium is paralyzant or depressant in its primary, or drug-action; the secondary action is an endeavor on the part of vitality to resume its activity, and the nervous system, which is the chief point of attack, reacts sthenically.

Thus we see that drugs administered antipathically are given for conditions correspondent to the secondary effect of the drug; nux in asthenic, atonic conditions as a stimulant; gelsemium in sthenic conditions, as a depressant. Homeopathically, drugs are given in conditions correspondent to the primary effects of the drug when used in physiologic dosage; nux in irritability; gelsemium in depression.

4. Potency; Repetition of Dose; Alternation; Homeopathic Aggravation

(a) *Potency*.—The potency, or dilution, question is a bone of contention among theories—either of the high or low potency stripe. With practical men it resolves itself into: (1) Clinical experience. (2) Estimating the sensitivity of the patient to drug-action. (3) Knowledge of the fact that some drugs, particularly those whose action seems to enter deepest into metabolism: sulphur, lycopodium, natrum muriaticum, for ex-

ample, apparently develop greater or unsuspected power through dynamization, or dilution plus succussion. (4) Sometimes the acuteness or chronicity of the disease may decide a trial of a certain dilution.

The most difficult part of the problem is the selection of the drug; the suitable potency is more easily located. Never allow yourself to be swayed by either a tincture or high-potency individual. Either may be as bigoted as the most rampant old-school scoffer. The masters in any science become so through personal experience, not hearsay; and the advantage of a school, college or university lies in that the developing mind is brought into contact with many minds, and should assimilate from each, never, however, losing individuality and the right of personal judgment and application.

(b) *Repetition of Dose*.—For this we return to the fundamental concept of vitality, and repetition is dependent upon how soon vitality reacts, and upon how soon it should begin to react. In pneumonia, for example, things may have to move swiftly, by the hour, or less. The allowable reaction-period is here very different from that possible in a chronic cardiac or renal case. When reaction begins, lengthen the interval or stop the drug. If the remedy has been found, dosage indications will soon be obtained from a study of the patient.

(c) *Alternation*.—Permissible theoretically and practically, if alternating conditions develop, as in Hahnemann's classic treatment of a typhoid epidemic (1841), where he used bryonia and rhus. It might be permissible where your best judgment and knowledge were unable to decide between two drugs. Such cases may arise, or others where there are no alternating states but the patient presents a complexus which seems to partake decidedly of the characteristics of two remedies. Such cases are more frequent in earlier practice, and become rarer as knowledge, theoretic and practical, of the resources of the *materia medica* is extended, but, beware the omniscience of the transcendentalists, whose cases sometimes show a curious and rapid

succession of remedies quite incompatible with omniscience, and also bear in mind that "the first and chiefest duty of the physician is to heal the sick," and not to sacrifice unconditionally a patient to a theory, however excellent theoretically, and generally practicable. From the standpoint of personal scientific growth (and if you do not grow, you will die) any alternation is reprehensible, for the moment you depart from the single remedy, you enter into more or less confusion, which, if at rare times is seemingly necessary, should not be prolonged. In all but urgent cases, if you cannot decide between two remedies, use one of them for twenty-four to forty-eight hours; if reaction is not obtained, turn to the other.

(d) *Homeopathic Aggravation*.—When the patient has an aggravation of his complaints immediately following a dose or a few doses of the remedy, it may usually be taken as nature's certificate that the remedy has been correctly chosen, and that medication should be temporarily stopped, or a better potency (possibly higher, possibly lower) administered. You may practise for years without observing a true homeopathic aggravation, so gentle is the action of any reasonable dosage. In any case, do not worry over it. No harm has been done (unless the transcendentalists figure out some irreparable injury), and you need only patience to wait, and judgment when and how to continue the remedy.

5. *Acute Diseases*

These are "rapid morbid processes of the deranged vital force, which have a tendency to finish their course more or less quickly, but always within a moderate time. . . . They are either of such a kind as attack human beings individually, the exciting cause being injurious influences to which they were particularly exposed: excesses in food or an insufficient supply of it, severe physical impressions, chills, overheatings, dissipation, strains, etc., or physical irritations, mental emotions, and the like are exciting causes of such acute febrile affections . . . or, they are of such a kind as attack several persons at the same time,

here and there (sporadically), by means of atmospheric or telluric influences and injurious agents, the susceptibility for being morbidly affected by which is possessed by only a few persons at one time, or, they are epidemic or infectious or contagious, such as variola, mumps, measles, scarlatina, etc."

Vitality, when attacked by an acute disease, rapidly regains its equilibrium when the cause is removed or extinguished, in which process the indicated homeopathic remedy is commonly the most rapid and salutary means of aid.

6. *Intermittent or Alternating Diseases*

"The intermittent diseases deserve special consideration, as well as those that recur at certain periods—like the great number of intermittent fevers, and the apparently nonfebrile affections that occur at intervals, like intermittent fevers—as also those in which certain morbid states alternate at uncertain intervals with morbid states of a different kind. These latter, the alternating, diseases are also very numerous, but all belong to the class of chronic diseases; they are generally a manifestation of developed psora alone, sometimes, but seldom, complicated with syphilis, and therefore in the former case may be cured by antipsoric medicines; in the latter, however, by alternation with antisyphilitics.

"The typical intermittent diseases are those where a morbid state of unvarying character returns at a tolerably fixed period, while the patient is apparently in good health and takes its departure at an equally fixed period; these states may be nonfebrile or febrile. When nonfebrile, they always belong to the chronic diseases, mostly to those that are purely psoric, and are successfully treated by antipsorics, yet it is sometimes necessary to employ as an intermediate remedy a small dose of a potentized solution of cinchona bark, in order to extinguish completely their intermittent type.

"With regard to the intermittent fevers that prevail sporadically or epidemically (not those endemically located in marshy districts) we often find every paroxysm likewise

composed of two opposite alternating states (cold, heat—heat, cold), more frequently still of three (cold, heat, sweat). Therefore the remedy selected for them from the general class of nonantipsoric medicines must either be able likewise to produce in the healthy body two (or all three) similar alternating states, or else must correspond in the most homeopathic manner possible to the strongest, best-marked and most peculiar alternating state (cold, hot or sweating), but the symptoms during the apyrexia must be the chief guide to the most appropriate remedy.

"The most appropriate and efficacious time for administering the drug in these cases is immediately or very soon after the termination of the paroxysm; it has then time to effect all the changes in the organism requisite for the restoration to health without any great disturbance or violent commotion. If the stage of apyrexia be very short, as in some bad fevers, or if it be disturbed by some of the after-sufferings of the previous paroxysm, the drug should be given when the sweat begins to abate or as the paroxysm begins to diminish.

"When, after the indicated remedy has cured several paroxysms, the same fever returns, after an interval of health, it is because the noxious influence that first excited the fever still continues to act upon the convalescent, as often happens in marshy districts; in which case a permanent cure is often only possible through a change of climate, i. e., by removing the cause."

The above paragraphs are excerpted from the "Organon." They sufficiently illustrate the homeopathic view of the subject.

7. Chronic Diseases: *Psora; Syphilis; Sycosis*

The preceding section has introduced a term, "antipsoric," found exclusively in homeopathic literature. For Hahnemann's classic exposition of chronic disease, Section 78 *et seq.* of the "Organon" must be read.

There have been voluminous sneers at Hahnemann's psora theory, and when the acarus scabiei, which causes the common itch, was discovered (*psora* is a Greek word meaning the "itch") there was an outburst

of joy. As a matter of historic fact Hahnemann was fairly cognizant of the "itch insect." In *Der Anzeiger, ein Tageblatt zum Behuf der Justiz, der Polizei und aller burgerlichen Gewerbe*, of July 30 and 31, 1792, appeared the following article, signed only by the initial "B."

"The itch itself does not consist of emanations or of congenital or acquired acridities of a salt or acid character of the blood, but it is derived from small living insects, or mites, which take up their abode in our bodies beneath the epiderm, grow there and increase largely, and by their irritation or their creeping about cause an itching, and owing to the afflux of humors thereby produced give rise to a multitude of vesicles, which, on being rubbed, or when the thin, watery fluid they contain has evaporated, become covered with scabs." Immediately after this is an addendum by S. Hahnemann, M. D.:

"The cause of itch given above is the only true one, the only one that is founded on experience. These exceedingly small animals are a kind of mite, etc." "And his treatment for the itch-mite was baths or washes of sulphured hydrogen, sulphur ointment, etc."

Hahnemann used the term, *psora*, as a name for what his clinical observation had led him to view as a chronic miasm, or infection, merely because he noted that a receptivity for the itch-disease, with its actual, demonstrable, and removable cause, the acarus scabiei, was a characteristic, in his day especially, of the general morbid syndrome, or miasm, or infection, to which the term was applied as a specific name, just as "syphilis" (from two Greek words, *sus*, hog, and *philos*, lover) is applied traditionally to a certain disease syndrome. Considered in the light of modern bacteriology, microscopy and pathology, "psora" may very possibly be identified with what some of our friends term "the great white plague," scientifically known as tuberculosis. But Hahnemann, we know, did not have a modern high-power microscope, yet, his consideration of "psora" may possibly throw a little modern light diagnostically

and therapeutically upon the "tubercular diathesis."

In studying psora Hahnemann developed a group of drugs which he found by experience most curative in the condition, and to which he gave the name of antipsorics. This does not limit their scope, for they are useful in other forms of disease, but merely gathers them together as peculiarly suitable in this condition. Most of them are characterized in their pathogenesis by a tendency to some form of dermal disturbance.

Syphilis is a well-recognized disease-syndrome. Our able modern bacteriologists were lately fighting over the cause, but seemed to have agreed upon the spirocheta

pallida as the "germ." The mercuries and iodides are the chief homeopathic remedies, their pathogeneses being most similar to the various stages and conditions developed.

Sycosis is a term used by Hahnemann for a disease-syndrome which, when we look at it with a 1-12 lens, seems to be gonococcal in type, or to present the acquired or hereditary states and conditions which this bacterium is likely to excite. And as an instance, bacteriologically, of how Hahnemann was about one century ahead of his time, we would advise the perusal of his treatise "On the Mode of Propagation of Asiatic Cholera" (1831), found in "The Lesser Writings" (Boericke & Tafel, Philadelphia, Pa.).

C Y S T I N A N D C Y S T I N E M I A

An interesting description of a condition which has been studied but little, with some deductions as to its effects, its nature and methods of diagnosing and treating it

By JAMES WHITE MOORE, M. D., New York City

AS long ago as 1852 Dr. Geo. Johnson, of London, in his classic work, "Diseases of the Kidney," said: "Cystin, which is occasionally found in the urine as a product of disease, contains no less than 26 percent of sulphur."

Being present very often in the blood and occasionally found in most of the excretions of the body, cystin deserves careful consideration. It is hexagonal in its typical crystalline form. Its presence in the microscopic examination of blood is safely determined by its well-known and characteristic appearance in the urine. No other crystals found in the blood are at all likely to be mistaken for cystin, whatever their form or departure from their strict type.

Appearance Under the Microscope

When the rays of light from the mirror of the microscope pass at right angles through the crystal, it appears bright and clear like glass. The rays of light that strike the

crystal at an oblique angle cause such surfaces to look black, so that the crystal is made to have very clean-cut, sharp lines. The hexagonal form of the cystin has been found in the liver and blood, but in the blood the crystals are mostly irregular or slightly hexagonal, due probably to floating about and rubbing against the walls of the blood-vessels. The crystals are very friable, and often are seen in the blood as crystalline particles grouped; but whatever their form or whatever their size, seen either singly or *en masse*, the crystals never lose their characteristic appearance. Yet sometimes a crystal is found in the blood so obscured by the coloring matter of the blood or so enveloped by blood-cells and fibrin or broken-down epithelium from the walls of the blood-vessels that nobody can tell what particular kind of crystal it is.

Cystin calculus is very rare, in spite of its total insolubility in pure water; also on account of the slow elimination of cystin from

the kidneys, while other gravel-forming substances are often eliminated in large quantities at a time, for example, uric acid, the urates, phosphates, and oxalates and carbonate of calcium.

Gravelly conditions in general are remarkably common among poorly nourished children of the lower classes and also in the well-fed adults of the rich. This fact goes to show that these so-called diatheses of gravel are metabolic deviations from the normal, occurring as often in the poorly nourished as in the over-fed. The real cause of the same results in these two extreme conditions of life is due not first to the character of the foods and drinks but to their fermentation.

The normal metabolic changes in the healthy cell just balance one another, but when this cell begins to live upon unhealthy foods or an overabundance of foods or a too-long-continued use of one kind of food, good or bad, fermentation sets in within the cell. Then result gravelly conditions and intoxications of various kinds and degrees.

Cystin does not pass into the tissues except in solution. The cystin that appears in the urine as crystals comes from the malpighian bodies and mostly occurs in the granular form. It can often be seen by the unaided eye. Seldom are heavy deposits found daily.

By cystinemia is meant such a persistence and collection of this peculiar compound in the system as to produce any great disturbance of the body.

Some Results of Cystinemia

This condition results in various forms of disease. The formative departure is in the alimentary canal. Later on the blood becomes thick andropy. Cystin may be excreted by any of the mucous surfaces, especially the kidneys, bronchial tubes and the epithelial surface of the bowels, but in all these cases it is always found in the blood, sometimes in the urine, expectoration and the feces. Its local manifestation is only a symptom of the systemic condition.

Cystinemia is likely to affect the nervous system, often producing great nervousness, even paralysis. Insane patients have shown

much cystin. It is present in nasal and bronchial catarrh, and when affecting the small bronchial tubes produces asthma. By reason of its production of thick andropy blood it produces a gouty kind of rheumatism. Cystinic rheumatism is apt to enlarge the joints, owing to the insolubility of cystin, and the ordinary remedies given for other kinds of rheumatism have little or no effect. Cystin produces a gouty condition of a chronic form—it does not produce acute rheumatism. It is rare that its presence in the blood is not observed at any examination of a marked case of this disease. Its presence in the urine is not constant, even in bad cases, and probably this is the reason why cystinemia is often overlooked by many physicians who seldom examine the urine of their patients and never examine their blood clinically. The method of examining blood by making thin smears of a scanty drop would not be likely to detect cystin.

Cystinemia often runs in families or near relatives; some members will show great nervousness, others gouty symptoms, others bronchial or asthmatic troubles. This is more noticeable in long-settled communities of the same breed of people. The pilgrims and other colonies brought all their peculiarities with them.

The Storms of Elimination

There seem, in some cases, to be occasional storms of elimination of cystin, either by the lungs or bronchial tubes, the bowels or the kidneys. Sometimes the urine becomes so loaded with the cystin that the whole excretion has a turbid or milky appearance. This cystin is in an amorphous form. To prove that this granular matter is cystin and nothing else, precipitate to the typical form by the well-known reagents.

These storms or explosions of cystin from the system are followed by a sense of relief, especially to those of a neurasthenic type. They experience a sort of *bien etre*, just as some feel better after a cry and a liberal flow of tears. These people rival Niobe in their weeping. When cystin attacks the epithelial surfaces of the bowels it often produces chronic diarrhea. Frequently there is pro-

nounced dyspepsia, congestion of the portal circulation, and dizziness.

"Cell Pathology Virchow" found cystin in the liver. It has also been found in the lymphatic glands and spleen.

In the asthma produced by cystin, some of the crystalline matters are often dark, like coal-dust, but the proof that these crystals are not coal-dust is the fact that the crystals are largely found within the cells of the epithelial surfaces; for cells do not take up solids except in minute forms, as for instance emulsified fats. Moreover, in cystin-asthma the blood always, and often the urine, shows plainly the cystinic condition at the bottom of the trouble. This condition constitutes gravel of the lung. The cough with some is hard, metallic, ringing.

In spermatorrhea and uterine and vaginal catarrh cystin is often present. Cureting and douches give only temporary relief. This leakage and catarrh persists till normal digestion and metabolism is restored.

Sulphur and Cystinemia

Although cystin contains 26 percent of sulphur, the writer has not observed that the giving of sulphur by itself has anything to do with the production of cystin. It is, however, a fact that foods rich in sulphur often disagree with persons having cystinemia. They will observe that eggs and fish, both rich in sulphur, aggravate their subjective feelings and symptoms. But so will the excessive use of starch and sugar and the glue-tissues, as in soup.

The management of cases of cystinemia varies somewhat with the type of the disease and the condition of the patient, though the real cause is the same in all. To bring about healthy metabolism in the living cells, wherever attacked, and to produce elimination of the product of unhealthy action is the line of treatment. Cystinemia is a

chronic disease and requires a chronic treatment. Establish and maintain healthy alimentation. The diet is all-important. Give only such foods as each patient can digest. Be explicit as to the kind and amount of food, just as in infant feeding.

Treating This Condition

Examine the blood and urine at least once a week. Learn the condition of the stools. Keep the urine below 1020 by drinking water one to two hours apart from meals. Favor elimination by iodine or colchicum, or both, in very small doses, in an agreeable form. Use small doses of saline laxatives or mildest bitters with aromatics before meals.

Give full or large doses of hydrochloric acid after meals and at bedtime, bearing in mind that large doses of hydrochloric acid continued produce ropy blood. The blood examination will be the guide to the use of this most excellent remedy. Use it and stop it for a month, as needed.

For the attacks of nervousness use mild nervines, singly or in combination, such as lady's-slipper or its active principle, the valerianates, the bromides, scutellaria or its active principle—all in small doses repeated as often as needed. For hepatic and intestinal laxatives use euonymin, cascarkin, aloin, all in smaller doses than the stock-tablets on the market (of 1-4 to 1 grain each). For the chronic diarrhea of cystinemia give vegetable astringents in a pleasant form or eudoxin or the sulphocarbonates.

In pure cystinemia do not use narcotics, arsenic, iron, quinine, strychnine, mercury, salicylates, alkalis, or saline laxatives. These may sometimes be of temporary use in complications, but as a rule they are worse than useless in cystinemia.

Dr. Robt. L. Watkins of New York says: "The quickest, easiest and surest way of detecting this disease is by the blood."





REPORT OF A SURGICAL CLINIC

Given at the Post-Graduate Hospital, New York, and presenting cases of appendicitis, bile-tract adhesions and uterine prolapse, artificial synovial fluid, and paraffin displacement

By ROBERT TUTTLE MORRIS, M. D., New York City
Professor of Surgery in the New York Post-Graduate Medical School and Hospital

THIS woman, 70 years of age, has been a sufferer for many years and under the care of pretty good authorities; has had different diagnoses made. Appendicitis has been diagnosticated. When I saw her Saturday her history was of the last attack of pain in the appendix region some months ago, and there is always more or less tenderness there. On palpation I find a hard fibrous appendix, and also tenderness at the site of the right lumbar ganglia about 1 1-2 inches to the right of the navel.

Tenderness at this point alone would convince me that the appendix had been the site of her attacks of abdominal distress, but I find the left lumbar ganglia 1 1-2 inches to the left of the navel equally tender with the right lumbar ganglia, consequently I would look to the pelvis for the origin of the impulse which leads to the sympathetic irritation of both groups of lumbar ganglia, and on making pelvic examination we do find prolapse of uterus of long standing.

The Case One of Infective Cholecystitis

The patient says that several physicians have made a diagnosis, in the case, of gallstones. On examination of the gall-bladder region we find also much tenderness on deep pressure, but as pressure across the middle line of the abdomen gives rise to an equal

degree of tenderness, it is my belief that the tenderness is at the site of the semilunar ganglia, and that in all probability we need look only to the procidentia as the chief or only cause for her suffering. It will take only a moment, however, through a short incision, to make sure about the gall-bladder. This is now done, and I find very extensive, firm, old adhesions, all about the gall-bladder and ducts, engaging the pylorus and hepatic flexure of the colon. There are no gallstones in the gall-bladder, but the patient certainly has had various attacks of cholecystitis, and the doctors who made the diagnosis of gallstones were right, practically.

The only fault that I have to find is, that the diagnosis of gallstones is not an up-to-date one to make of this case. An up-to-date diagnosis is infective cholecystitis, and the presence or absence of gallstones is a matter of very little consequence.

In old times the decision to operate or not in appendicitis often hinged on the question whether or not there was something in the appendix. The biggest thing that ever got into the appendix was the bacterium. Today we are still quibbling in the same way over the question of presence or absence of gallstones, when the biggest thing that ever gets into the gall-bladder is, again, the bacterium.

The adhesions are all severed, and to prevent the recurrence I spread a sheet of Cargile membrane over the raw surface and then close the abdominal wound. As a rule I like to remove the gall-bladder in these old infection cases, but we have a good deal to do for this elderly patient still, and I want to get in and get out in a very few minutes.

Caring for the Procidentia

The next step is to care for the procidentia. A suprapubic opening is made and incidentally we will examine the appendix region through this median-line incision. The doctors who made the diagnosis of appendicitis previously were quite right. The hard fibrous appendix is entirely surrounded by firm bands of adhesions which bind together omentum and loops of bowel. It takes but a moment to remove the appendix, and the interior shows from its scars the damage it has suffered.

The procidentia is to be cared for next, and I think, as a rule, it is best to remove the uterus altogether and make a very nice repair with careful separating of the broad ligaments in the middle line. In this case, however, it is necessary to work very quickly, so I scarify the fundus of the small uterus and fasten it to the peritoneum just above the bladder. This is not ideal treatment, but it is the one that I am choosing for this particular case. As the operation requires but a very few minutes, the perineum is next repaired by making a horse-shoe incision, pushing the scissors into the bulbocavernous muscle and opening them *in situ*; then repeating the process on the other side and stripping away the vaginal mucous membrane for a couple of inches. Now, by bringing the bulbocavernous muscles together in the middle line, the margins of the levator ani follow, the skin around is sutured, and you observe that we have made a very fine strong perineum in just five and a half minutes of time, and most of them can be done in one-half that time.

This woman had a fracture of the femur a year ago, and although a good recovery was made from the fracture, she has had such a stiff and painful knee since that

time that she has been a constant sufferer. Very often patients are discharged from hospitals after a successful union of fracture but with adhesions resulting from certain forms of treatment and from lack of attention, and consequently patients may go through life suffering from joint-adhesions which could be very promptly disposed of and which nullify the effects of good fracture treatment.

In this case I break up the adhesions of the knee-joint and find a good deal of roughness. We will now add the supplementary treatment which I have shown a number of times before the class, and which consists in the injection into the joint of an artificial synovial fluid, consisting of 1 part of boroglyceride, 3 parts of glycerin, and 4 parts of aqueous salt solution. It might be well to add enough salt to make the entire mixture isotonic with human blood, that is, 9-10 of 1 percent sodium chloride. As a matter of fact, however, the fluid which I used at the very outset has proven so satisfactory that I have not made any changes in the formula at all. It is adapted not only for joints roughened by adhesions but for "old, dry, creaky joints," and other cases in which there apparently is not enough lubricating material for mechanical comfort of the joint. I have used this fluid in old cases of gonorrhreal synovitis, in old cases of rheumatism, and have even risked its use in tuberculosis of the joints after breaking up adhesions. The latter procedure is however to be applied with great caution and in carefully selected cases only.

There is remarkably little inflammatory reaction after injecting this artificial synovial fluid and patients often speak of comfort following a few hours after the injection has been made. In the knee-joint I have sometimes put in more than one ounce; considerably less is required for the hip and elbow-joints. The fluid is sterilized by heat, as is the syringe.

With my first cases I thought best to have the patients remain in bed for a week, fearing inflammatory action, but by experience I find that we can allow them to get out of bed almost immediately. The only case

which I have had in which the patient complained of pain was the case of a girl suffering from grave hysteria who had unaccountable adhesions of the knee-joint. These were broken up and the artificial synovial fluid was injected. She complained very much of the pain and was not benefited. This case was a marked exception.

A Paraffin Displacement

This patient on finding wrinkles were developing in her forehead and neck proceeded to avail herself of the face specialist's resources and paraffin was injected beneath the skin at several points. It was not injected at the right melting point and the consequence was that it was carried by metastasis all about beneath the skin, and gave rise to ugly masses of red induration.

The patient is a pitiable spectacle and hopelessly marked. We make several incisions over the site of the paraffin and remove the material. The wounds are brought together with the smallest size of catgut, which will be absorbed in forty-eight hours, and the wound-margins are held together by gauze covered with collodion, which becomes separated after the catgut is absorbed and avoids scarring. This is a very neat resource. We shall probably have to hunt after paraffin further at another sitting as it is impossible to trace all of its wanderings. I wonder that the beauty specialists do not get into the courts more often, but in conversation with one of them upon the subject, some time ago, he said there was no danger because people would not air their vanities in court.

FLATFOOT: ITS DIAGNOSIS AND TREATMENT

A common cause of disability of the feet, often mistaken for "rheumatism," but easily diagnosed, easily prevented when its causes are recognized and promptly relieved by a simple appliance

By EDWARD A. TRACY, M. D., Boston, Massachusetts

Orthopedic Surgeon to the Mount Sinai Hospital, Boston

IN every avocation the feet are of prime importance. Their well-being to the wage earner is a necessity. Most foot-troubles are amenable to treatment, and can be successfully treated by the general practitioner. This I have shown in an article entitled "The Care of the Feet" published in THE AMERICAN JOURNAL OF CLINICAL MEDICINE for June, 1905.

Ease of Making a Correct Diagnosis

The diagnosis of foot-troubles is comparatively easy, there being little that is obscure in it. There is some excuse for the doctor who is puzzled about an abdominal lesion, for in such cases even very clever men "when in doubt—open the abdomen and find out." Should there be any excuse, however, for us when we allow a patient suffering from flat-foot to swallow

every antirheumatic in the Pharmacopeia, when a moment's observation of our patient's feet would give us a positive diagnosis? Based on this diagnosis we can supply a proper arch support and give our patient immediate relief, converting him from a pessimistic drug consumer into a grateful patient, with respect for the medical profession, one who will sound our praises to the afflicted with whom he mingles. Mind, I say a *proper* arch support, and of such construction that while it restores the arch, it does not by its rigidity interfere with the normal elasticity of the foot.

I am a firm believer in the efficacy of pure drugs—but sooner would "all the perfumes of Araby sweeten the blood-stained hand" of Lady Macbeth, than all the chemicals of nature and of art remove the disability of the pain-producing flatfoot.

The diagnosis of flatfoot is made by inspection. It is an overrefinement of the orthopedist's art to take an impression of the weight-bearing surface of the foot for this purpose. The foot should be examined in the hands, with the patient sitting. The contour of the arch is noted, and then the patient should stand; if flatfoot is present the arch will flatten. The degree of flatfoot present depends upon the amount of flattening of the arch that takes place. The height of the scaphoid-astragular articulation from the floor measures the height of the patient's arch.

Flatfoot is a condition that does not permit of doubtful diagnosis: it is present or it is not. If present, it is readily detected, I repeat, by inspection. Flatfoot is present, however, sometimes without symptoms. I have seen in my hospital service the flattest of flatfeet, without pain being present or the feet being complained of. These cases were of long duration, in Russian emigrants, who came to the hospital for other defects. Of course their gait was awkward.

The Cause of Flatfoot

What is the cause of flatfoot? The main factor I believe to be weakening of the calf muscles. This muscular weakness is present after the patient had kept the bed for any reason for a few weeks. This observation is important. For, because of it, the alert general practitioner can detect flatfoot in its very incipiency, and by appropriate treatment cure it—and thus prevent the chronic condition that is so prevalent. For example, I have seen a patient who was sick in bed for six weeks with acute articular rheumatism with endocardial involvement, when convalescent, complain of pain in the feet when walking. The pain was located in the region of the scaphoid articulations. There was slight depression of this bone in both feet, the patient standing. It was thought to be rheumatism of the feet. There had been no complaint of these articulations when the patient was confined to bed. Arch supports gave immediate relief—which they could not do if rheumatic inflammation was present. It was

a case of acute flatfoot due to muscular weakness.

I have seen many cases of acute flatfoot in convalescents from many diseases, the etiologic factor common to all being an acute sickness that confined the patient to bed for a period of at least ten days and associated with muscular atony, this latter due to disuse, or to the toxins of the disease that confined the patient to bed. From personal observation and careful histories I am firmly convinced that this is the manner in which flatfoot arises in most cases. This being so, our responsibility as practitioners for allowing this infirmity and deformity to occur must be acknowledged, that is, if the deformity can be prevented.

Flatfoot is Easily Corrected

No infirmity of the body is more easily or certainly prevented—or remedied. A flexible, springy support that approximates the lowering arch to its normal height and keeps it there until convalescence is established and the calf-muscles again resume their natural function of supporters or holders-up of the arch does the work. This support must not be a rigid plate, because the foot arch is elastic, spring-like, and a rigid plate interferes with its function.

Besides inspection, already spoken of in the diagnosis of flatfoot, there are symptoms present that indicate the nature of the trouble. These symptoms are tenderness on pressure being made downward on the scaphoid articulations, pain in the calves, sometimes ascending to the hips and even higher. Sometimes a tired feeling in the legs is the sole complaint. Both the tiredness and the pain is most severe as the day wears on, as a rule both being absent in the morning after the night's rest. On examining the feet of patients with these symptoms, we shall find various degrees of flatfoot. Long-lasting cases have lost considerable of their arches, as is manifest when we examine the feet without weight-bearing, the patient sitting. If on manipulation we can restore a fairly good arch, we shall find treatment by a proper support almost miraculous in its removal of symptoms. If

we have a rigid arch to contend with, relief is slower. In these cases I find a support that is very moderate in height, the best appliance.

The arch of the foot that I have so far spoken of is the main arch of the foot—the instep.

The Anterior Arch of the Foot

I will say a few words now about the other arch of the foot—the anterior arch. This is the arch that is normally found between the distal ends of the first and fifth metatarsal bones. In the normal foot the metatarsals between the first and fifth do not press against the sole, only the ends of the arch, the first and fifth metatarsals, do that. This anterior arch breaks down from bad shoeing and is secondary to the falling of the instep. In these cases we find a callus on the sole, back of the middle toe, caused by pressure of the distal end of the middle metatarsal. This callus is

generally painful and is diagnostic of the falling of the anterior arch. In some cases there is no callus present, but a metatarsalgia. The arch support I have described is so constructed as to help restore also the anterior arch, and in most cases its application suffices for treatment.

In this brief paper the points worthy of emphasis are the following:

In convalescence from any sickness that has confined the patient to the bed for a period of ten days or more see that a pair of good arch-supports, built on anatomic and physiologic lines, be applied; it will add to the comfort of convalescence, lessen tiring, and absolutely prevent falling of the arch—or flatfoot.

The general practitioner can treat flatfoot successfully by means of the arch-support described. Better results are attained than can be by means of the rigid arch supports that some orthopedists furnish at from fifteen to thirty dollars.

AN INTERESTING MONSTROSITY

The report of an unusual abnormality
as found in a newborn babe, which
lived for ten days after its birth

By JAMES A. DE MOSS, M. D., Thayer, Kansas

NATURE is so constant and perfect in her work that the abnormal is a rarity. The poet sees and describes the beauty of nature and marks her symmetry and loveliness in the lineaments of verse, setting forth her form and likeness as a splendid portrait.

The study of the abnormal more generally belongs to the physician, and he is forced to pass by the beautiful and perfect for the study of the abnormal—nature in distortion; and when possible, apply remedial agencies for normal development.

Human monstrosities are catalogued at some length, but in proportion to babies born they are a rare and infrequent occurrence. So infrequent are nature's failures

to develop and mature the human fetus that the average practician meets with but few such cases in a lifetime.

On March 2 the writer attended Mrs. B., for the sixth time, in confinement. All her previous children were well developed. The health of the patient during her last gestation was fairly good, she being able at all times to do her housework and care for her children. Her general appearance indicated a moderate state of innutrition.

In this particular confinement she gave birth to a living child with the following deformities: Utter absence of cerebrum; cleft lip and palate; distal phalanx of left index-finger amputated; from eyebrows to spine backward only a flat plane. Back of

the eyebrows there was a cleft in the scalp, which presumably represented the anterior fontanel, and through this opening of about half or three-fourths of an inch protruded a strip of substance two inches in length, which I presumed to be the meninges of the cerebrum. The pitiable infant lived ten days.

[These cases are fortunately rare, but there are many more of them than most of us imagine, the larger part of them going unreported. For instance, in the Miscellaneous Department of this issue there will be found the report of another somewhat similar case.

While our journal is above everything else practical we shall be glad to have brief reports of such fetal abnormalities from our readers. Tell us briefly just how many of these cases you have seen and give us something of their character. The study of teratology is one which is of peculiar interest to the embryologist, but one which the general practitioner should also know something about. Read Gould's and Pyle's "Curiosities and Abnormalities of Medicine."

But while these things are of interest don't forget *the main thing*—which is to cure or alleviate disease. Above everything send us in experiences, which will help to that end. Will you not do it?—ED.]

A FURTHER REPORT ON HYOSCINE-MORPHINE

The later experience with this combination, reported after one full year's experience, with the description of an obstetrical case in which its action was ideal

By F. C. BEALS, M. D., Salamanca, New York

SOMETHING more than a year ago I made a report on my use of hyoscine-morphine and cactin tablets for anesthesia, in which I said: "For a number of appendectomies, perineorrhaphies, tracheorrhaphies, etc., two tablets followed by a few whiffs of chloroform gave entire satisfaction. In twelve obstetrical cases (4 instrumental) this anesthetic acted equally well. No bad symptoms occurred except in two cases of labor where two full-strength tablets were given; the children were dumpish and would not nurse until the second day. I regard it as superior to chloroform, especially in labor-cases where there may be a tendency to postpartum hemorrhage."

His Opinion Still the Same

I have no desire to modify this statement after another year's use of this anesthetic; all I can say is, I like it better and better the more I use it, and have had no bad results from it; nor have any occurred in this

part of the country if I can judge by the discussion on my paper read some weeks ago before our county medical society. In my surgical work two tablets an hour and a half apart with the inhalation of a few drops of chloroform have become my usual form of anesthesia. In a recent case of amputation at the shoulder-joint it gave splendid results, less than two drams of chloroform being required for such a serious and long operation.

A recent case of obstetrics is typical of its effects in susceptible cases. A woman about six months pregnant was seized with severe labor-pains, without apparent cause. On my arrival I found the uterine contractions severe, frequent and very distressing. Examination showed the os to be but slightly dilated, with no discharge of blood; so I concluded that abortion could be prevented by immediate arrest of pains and protracted slumber. I therefore gave her one full-strength tablet of hyoscine, morphine and cactin hypodermically, and waited about an

hour when she was sound asleep, but the uterine contractions continued at regular intervals—they were still strong and frequent.

At the end of an hour and a half the pains suddenly ceased and the patient slept quietly on. Then I made a second examination and found that expulsion had occurred; the head of the fetus was at the vulva, and I removed everything by a little manipulation—fetus, placenta and membranes all intact; the pains had been so gentle and the movements of patient so quiet that the am-

niotic sac was unruptured. Further examination showed the uterus to be contracted firmly and with no bleeding. After completing her toilet and getting ready to go home I shook her and spoke loudly to her; she awakened easily and inquired if I thought she would be able to get out of her trouble without any miscarriage! When I told her that her labor was over she was very much astonished; she knew nothing of anything that had occurred later than a few minutes after the hypodermic injection.

PAROTID ABSCESS DUE TO SALIVARY CALCULUS

The causes and symptomatology of this rather unusual condition, with the description of an illustrative case, which was relieved by operation

By EMORY LANPHEAR, M. D., LL. D., St. Louis, Missouri

Professor of Surgery in the Hippocratic College of Medicine

CALCULI in Steno's duct are not very uncommon, the lime of a deficient salivary secretion of the parotid gland being deposited upon the floor of the duct and accumulating there until a stone as large as an almond may result. Such calculi can usually be expressed by propulsion by fingers, or by enlarging the opening of the duct (opposite the second molar tooth) and crushing the deposit, or by cutting down upon the mass and scooping it out with a Volkmann's spoon.

As a rule the flow of saliva is not completely shut off by these calcareous deposits, but rarely occlusion of the duct occurs and then an inflammation of the parotid gland is almost certain to follow as the mouth is always the home of myriads of bacteria.

In rarest instances the salivary retention is not followed by inflammation, in which cases malignant disease of the gland may be the diagnosis, and a grave prognosis given, whereas the trouble is very simple and easy of cure if recognized.

In most of the cases of occlusion the symptoms of inflammation follow promptly on cessation of the flow: distension of the duct causes pain and swelling and in a few hours

chill and fever follow; and if the existence of calculus in the duct is not suspected "mumps" may be the opinion of the attendant, as at first the symptoms indicate a simple parotiditis. But the recurrence of chill, the persistence of fever, the tongue of sepsis and finally the appearance of fluctuation cause even the careless practitioner to recognize abscess of the parotid as the pathological condition present; and careful examination reveals the local cause.

Prompt opening and drainage through the mouth, with removal of the calculus, quickly restores the patient to health; neglected cases go on to sepsis and may terminate fatally.

Dr. Y., age 48, was admitted to St. Mary's Infirmary April 19, 1908, with high fever, intense pain in face, huge swelling of cheek and general evidence of sepsis. Two years ago he had occlusion of Steno's duct from a salivary concretion, relieved by dilation of the orifice of the duct by probe followed by digital expression. About ten days ago the occlusion became complete, the existence of another lime-formation having been known for some months but not treated as it occasioned no discomfort. The closure of the duct was followed by marked swelling

of the cheek and in a few hours by chill and fever. The face and parotid continued to swell and the chill and fever recurred. At admission, the general condition was bad, from sepsis, and fluctuation pronounced over the lower part of the left parotid.

Under H-M-C anesthesia (plus a little chloroform) the abscess was opened from

within the mouth, the stone removed and the cavity packed with gauze. Convalescence was immediate, though there was much pain and induration in the gland for several days; and a slight purulent discharge still continues. But a day or two more of delay in this case undoubtedly would have led to a fatal termination from general sepsis.

CHILDBIRTH AT THE AGE OF NINE

The report of a remarkable case of sexual precocity, occurring in a negro child and presenting features of unique interest to the obstetrician and anthropologist

By V. I. PITTMAN, M. D., Cedarella, Mississippi

I WAS called, March 16, 1908, in the morning, to see Estelle Pryor, colored. I found her in labor and the case progressing slowly. The presentation was L.

therefore called Drs. J. T. C. and C. J. Pittman in consultation, with whose assistance I delivered her of a seven-pound boy-baby, without finding it necessary to use instruments.

Labor was normal and of fourteen hours' duration. There was very slight laceration of the soft parts; in fact, the girl did as well as any primipara I ever attended.

The most remarkable thing about this case was the age of the girl-mother. She was only a little more than nine years of age, having been born February 20, 1899; this made her nine years and twenty-four days old at the time of giving birth to her child. She is only 37½ inches high and weighs 75 pounds.

The remarkable sexual precocity of the child is shown by the fact that she menstruated first when about one year old; her periods were perfectly regular and normal up to the time she became pregnant (at age of about 8 years, 3 months). She was well developed in every particular.

She was up in ten days, and at this date (May 1) the girl-mother and babe are doing well and the mother is giving more milk than the babe can appropriate.

Of the accompanying pictures, one was made four hours before delivery, the other three weeks afterward.



A Picture of the Child-Mother Taken Four Days Before Delivery

O. A. On account of the extreme youth of the patient I apprehended trouble and



The Young Mother and Her Three-Weeks-Old Babe

The mother of this girl is forty-three years old, weighs 125 pounds, stature low

and form slender. And by the way, she had a child just one month old when her girl gave birth to hers. The father is fifty years of age, weighs about 150 pounds and is tall and slender. The couple have had twelve children, of whom five are living. The first was born when the mother was fourteen. The health of all the family is good and there is no hereditary taint.

This premature development has not manifested itself in any of the brothers and sisters of this little girl. She has a sister fourteen years old who has never menstruated. The little girl states that her own father is the father of her child.

[We have been unable, as yet, to find any record of childbirth at such an early age as this. The writer was once called to attend a young girl about to give birth to a child at the age of eleven years and ten months, and thought that extremely precocious. Can anyone match or approach Dr. Pittman's case?—ED.]

A CASE OF PROSTATECTOMY

Successful operation on a patient eighty-two years of age, illustrating some operative points and that it is "never too late to mend;" also the attitude of some surgeons toward colleagues, substantiating statements made by Dr. Gould

By J. D. ELY, M. D., Toledo, Ohio

SAMUEL MONTGOMERY, aged eighty-two years on January 30, 1908, was the victim of retention of urine for which I was called to relieve him November 26, 1907. He had been a sufferer in consequence of prostatic trouble for many years, and experienced all of the suffering and trials incident to recurring retention and inflammation until he had not only become familiar with its varied manifestations and how to relieve them, but he had the most complete outfit of catheters and appliances for that purpose it has been my experience to see in the possession of any patient.

A gun-metal prostatic catheter of special curve, procured for his use by an attendant

of more than usual ingenuity and skill, was often the means, when others failed, of relieving and kept him fairly comfortable for some time before the occasion on which I was called.

The Condition After Operation

The old gentleman was much weakened as a result of an operation for cataract undergone at the hospital and from which he had just returned home.

I drew the urine without very unusual difficulty the first time, but at the second trial, a few hours later, the irritation and difficulties had so increased that it was decided to return the patient to the hospital.

Some ten days there resulted in improvement, but not sufficient to make the condition of the patient at all promising for operation, and, as he was much dissatisfied there, he was returned to his home, able to get along fairly well without use of catheter for a short time.

He walked out and slight chilling of the surface resulted in return of trouble to an extent that operation was the only means considered possible to save his life, and



DR. J. D. ELY

without which, no doubt, he would have succumbed in a short time. The patient was not only willing but anxious to take the chance of operation, preferring it to continued suffering for an hour longer even, but refused to return to the hospital.

Under protest, and with little hope, the surgeon, Dr. John S. Pyle, was prevailed upon to operate at the house, two rooms of which were most efficiently prepared for it by Miss Mary Glass, a professional nurse. A bedroom in the southeast corner of the house proved to be as perfect for operating in as any private house could afford, and the day and hour chosen were most favorable. Dr. Pyle was assisted in the operation by Paul Hohly, the nurse, and myself, and the

anesthetic, which was C. E. mixture, was administered by Dr. E. I. McKesson.

Adopting the Pyle method, an elliptical incision was made through the skin, and attention is called to its advantages over the modified, V-shaped, used and recommended by some surgeons, in that it requires one incision of the skin instead of two, as does the V-incision; and so far as exposure of the field of operation is concerned, they are practically the same, consequently no claim of advantage over the elliptical or any originality should or will be claimed by any fair-minded operator.

Advantages of the Pyle Operation

In the operation of Dr. Pyle the prostate is not only most easily reached and removed, but the urethra is not opened, something most desirable to avoid, and which may most likely be by using a sound in the urethra for guide during operation as recommended by the Doctor and successfully used, as usual, in this, one of the most difficult cases.

Our patient was returned to bed, all considered, in a surprisingly good condition following the operation, and he rallied from the shock remarkably well.

The fight for his life however was no less strenuous after, and the credit for success following is, perhaps, quite as much due to the efficient care of Miss Glass, the professional nurse, and her assistant, Miss Minnie Lloyd, a practical nurse, as to the painstaking work of the surgical attendants who cheerfully accord to them, and all helpful assistants, their due.

The condition of the bladder and parts about included in the wound of operation, in this case, were such as to require irrigation and drainage to prevent and overcome sepsis. Recovery was uninterrupted and perfect, and as rapid as could be expected. Mr. Montgomery is now in excellent condition, has recently taken walks of a mile or more, and is going about wherever he pleases, unassisted, as usual.

The Operation and the Operator

Finally, regarding the operation of prostatectomy, and the operator in this case particularly, I offer a few words.

The evidence in favor of the operation of prostatectomy, even at advanced age, is now conclusive, and the route of choice, with just enough exceptions to prove the rule, is the perineal. This is obviously the best, as no important blood-vessels and nerves are involved, and the after-care of the case is usually the most satisfactory. A recent report in *The Journal of the American Medical Association* of two thousand cases of successful operations, without death, by Dr. Young, is notable and ample proof.

Credit for this method of removal of the prostate gland through the perineum used by him and others, and which they unjustly fail to acknowledge in their writings, is undoubtedly due to Dr. John S. Pyle, as the evidence which I have examined proves beyond question, I believe.

Please observe that Dr. Pyle devised and executed this, then new, method of removing the prostate gland, April 6, 1892, and first reported the same in *The Medical Record* of August 6, 1892, page 147. Further particulars of his operation are set forth by him in *The Philadelphia Journal* of April 1, 1899, many reprints of which have been distributed. Other evidence relative to the attitude of well-known surgeons in relation to Dr. Pyle's claims are also shown in *The Journal of the American Medical Association* for August 10, 1901, to which I refer those particularly interested in the subject.

I call attention to the matter here again, not because I feel that Dr. Pyle is entitled to particular recognition, much less praise, above others who, in common with him, have acquired knowledge which enables them to record for our benefit, but, rather, that he may not be deprived of that personal just recognition which custom has long accorded to the most worthy.

I offer the facts here stated as illustration of the practice of some surgeons to take to themselves credit where credit is not due, and that has made countless numbers of their more modest but most deserving colleagues mourn and the rank and file blush with shame for.

The immaterial change in operating adopted, set down and advocated by the usurpers as a subterfuge to enable them to appropriate credit due the originator, is a most disreputable practice, and should be exposed and objected to by the profession so that it will be abandoned by all writers, and particularly those who assume the authorship of textbooks and set themselves up as teachers and leaders.

Either no mention of the name of the originator or improver of an operation should be made, or else every one should appear with full credit.

Let us be just and generous if we must be hero worshipers as well as worshipers of the deed and truth.

■ SURGICAL THERAPEUTICS ■

FRACTURE OF UPPER END OF HUMERUS

Sometimes in fractures of the upper end of the humerus it is quite impossible to restore the bone to the normal by any sort of manipulation; in others, oblique in character, maintenance in good position seems unattainable by ordinary means. In such cases it is best to cut down upon the fracture, restore the parts to their normal position and retain them there by one of two means: (1) if the fragments do not show

much tendency to displacement after correction of deformity, suturing the torn periosteum and fascia with 20-day catgut will suffice; (2) if the parts slip about persistently, ivory pegs may be used or the bones may be drilled and fastened by catgut, with a plaster-of-paris dressing.

DUPUYTREN'S CONTRACTION

The excellent effects obtainable from thiosinamin on strictures has led to its adoption in the treatment of that peculiar,

and somewhat analogous, contraction of the tendons of the finger known as Dupuytren's contraction. Most remarkable results are reported from the injection of a 10-percent watery solution of thiosinamin together with the application of hot air for an hour each day, with massage.

CLEFT PALATE

When the fissure in the roof of the mouth is not very large it is better closed while the child is quite young; but if wide, it is better to wait at least until talking is well begun. But in any event it ought not to be attempted unless there is a fair likelihood of success. It should be done only by those having acquired special skill in nasopharyngeal and oral surgery. When it is probable that several operations may be necessary the parents or patient should be so informed. The operation should be done as early as possible. In the difficult adolescent cases the operation, after a preliminary tracheotomy, may be preferable. There are two reasons for attempting to close a cleft palate: (1) to improve the general health of the patient, and (2) to increase the efficiency of the faculty of speech. The general health of the patient is benefited by improving the hygiene of the nasopharynx and the oral cavity, and by improving the general morale of the patient.

REMOVAL OF GOITER

Unless the patient is very weak or the tumor unusually large there is but little danger from removal of bronchocele, which may best be accomplished under a mixed anesthesia: one surgical dose of hyoscine-morphine-cactin being given one hour before operation (two doses may be used except in the worst exophthalmic cases), and then locally the following solution: beta-eucaine, 0.2 Gram; sodium chloride, 0.9 Gram; adrenalin solution, 0.5 Gram; distilled water to 100 Cc. The entire area of operation is injected within the skin, the resulting edema soon disappearing. The incision is that of Kocher, the tumor

being enucleated from its capsule. Drainage is seldom used, bleeding is slight, and union by first intention has been the rule. Sterilized catgut is preferable for ligatures and sutures; and operation must be performed with rubber gloves if possible—or the wound not touched by fingers.

LOOSE CARTILAGE IN THE KNEE

Painful knee is often the result of a peculiar form of accident, not regarded at the time of injury as of much importance. The internal semilunar cartilage is more prone to injury than any other part of this joint, and especially its anterior portion, which may be torn from its tibial attachment or from the transverse ligament. Having been detached, it is liable at any time to be nipped between femur and tibia. The detachment is usually the result of violence, which causes an acute pain (and the limb remains slightly flexed) until the cartilage slips back into place. Subsequent displacements may occur from comparatively slight causes, and with them may come attacks of acute or subacute synovitis which render the joint a source of much discomfort. Treatment consists in careful reduction of the cartilage (under anesthesia if necessary) at time of injury, provided it is recognized; and if this is not successful, the cartilage ought to be removed by incision. Removal of the cartilage does not interfere with the utility of the joint providing absolute asepsis is maintained, no blood left behind, and passive motion instituted early.

LEUKEMIA

Under this name two distinct conditions are grouped: lymphatic leukemia and splenomyelogenous leukemia, each of importance in surgery, particularly from a diagnostic standpoint. The disease is essentially one of the blood and can only be recognized, early, by blood examination. In lymphatic leukemia there is a marked increase in the lymphocytes (the lymphocytes: those leukocytes which are small and have large nuclei and a very small amount

of protoplasm). The average leukocyte-count in this variety is 300,000, 90 percent of them lymphocytes; nucleated forms being rare. In the splenomyelogenous variety there appears in the blood-current a peculiar leukocyte normally present in bone-marrow but not natural to the general circulation; vast numbers of these being forced into the circulation; the leukocyte-current runs about 45,000, 30 percent being myelocytes; nucleated forms are numerous; and the amount of hemoglobin is reduced. The amount of reduction in the red cells depends upon the stage of the disease.

ATRESIA OF BILE-DUCT

It must not be forgotten that a narrowing of the common bile-duct may be a congenital condition. Such children have jaundice almost from birth. At first the weight may increase but after a few weeks (or months at the latest) it decreases until the baby becomes much emaciated, although the food seems to be digested. There is usually purpura, and decomposed blood may be noted in the stools from time to time. Bile-pigment may be found in the urine. If infantile jaundice does not yield quickly to calomel, succinate of sodium and laxatives, cholecystostomy should be performed.

PYLORIC OBSTRUCTION FROM CANCER

The passage of food from the stomach into the duodenum may be obstructed as a consequence of benign and malignant tumors of the pyloric portion of the stomach. Benign tumors in this region are so infrequent that they need not be considered. Pyloric obstruction from carcinoma is of frequent occurrence and gives its most marked symptoms late in the disease. The leading symptoms are stagnation and retention of food, with vomiting occurring every twenty-four to forty-eight hours, owing to the inability of the contents to escape through the pylorus; but the most prominent symptom is the severe cramps engendered by the efforts of the stomach to

overcome the resistance. Liquids are better borne than solids. A glass and a half of water in the earlier stage will leave the stomach in two or three hours, while a meal of solids (even though absorbable by the stomach) will be retained five to eight hours. When the disease is too far advanced for curative operation, which is usually the case when the tumor has grown to this extent, a gastrojejunostomy should be urged, not so much to prolong life as to make the patient comfortable; but it usually also adds several months to life.

ADENOMA

This tumor originates in glandular epithelium and conforms in its histologic structure with glandular tissue. When there is an excessive development of the connective tissue the resultant growth is called an adenofibroma. If it undergo cancerous degeneration it is then designated adenocarcinoma. On account of the danger of this latter change the tumors should be removed early, particularly if they show a tendency to grow rapidly.

TRACHOMA

Opinion of ophthalmic surgeons differ as to the best treatment of this most important condition, but the following may be said to represent the best plan to be followed by the family doctor under whose care the most of these patients come; and who must not mistake it for vernal conjunctivitis. In a recent case there are three indications: (a) to reduce excessive excretion, (b) to remove the trachoma-granules, (c) to prevent distortion of the lid with accompanying corneal complications.

(a) Argyrol here, best results. The patient must irrigate the conjunctival sac every 3 or 4 hours with saturated solution of boric acid, and at its conclusion have one minim of a 25-percent solution of argyrol dropped into the eye. This solution should be freshly prepared at least once a week. In the late cases, with "raw-meat" lids, an astringent must be added: the affected sur-

face should be lightly touched daily with strong solution of nitrate of silver, alum or sulphate of zinc—always by the doctor—and the other treatment continued at home.

(b) Removal of trachoma-granules must be effected with as little destruction of conjunctiva as possible. They may be expressed by some of the specially devised trachoma-forceps, under local anesthesia, if few in number; but if many are present, it is best to anesthetize the patient and carefully remove every one leisurely, with special attention to the retrotarsal folds and the angles of the eye where some are apt to be overlooked. Some authorities apply solution of copper sulphate in 10-percent solution (about 40 grains to the ounce) or 1 in 500 bichloride solution immediately after extraction of the granules. Cold compresses and a mild opiate control the subsequent inflammation and pain. In a few days topical applications by the doctor and irrigation at home may be resumed. If improvement is not satisfactory the mild treatment may be superseded by daily touching with sulphate of copper and the substitution of one drop of a solution of tannic acid in glycerin (10 grains to the ounce) for the argyrol.

(c) This indication is met by early operation and perseverance in aftertreatment. Patients are prone to discontinue treatment as soon as pain is relieved, but to secure good results the measures here outlined must be continued for weeks and sometimes months until a perfectly healthy conjunctiva is secured. When it is absolutely impossible for patients to see the doctor more than a few days after operation, Prince's method may be followed: Give to each patient a 2-dram vial of a 10-percent solution of sulphate of copper in glycerin, with the following directions: "Dilute one drop in twenty drops of water. Use freely in the eyes four times a day; increase the strength. Make fresh each time."

In his experience it is best to begin with one drop of this solution in twenty drops of water, and to use it from four to six times a day. The patient is told to decrease the water as he finds he can tolerate the solution,

or to increase the amount of water if the solution proves too irritating. Some patients do not tolerate the treatment very well, but in most patients it is satisfactory and has often effected permanent cures. People must be informed that the disease is contagious through the conjunctival secretions and warned to take proper precautions.

FOREIGN BODY IN CORNEA

Quite frequently a small piece of cinder, rock or of dirt is so driven into the superficial layers of the cornea as to defy removal by fine tweezers; and of course it cannot be removed by electromagnet as can a fragment of iron or steel. If the cornea is well anesthetized with cocaine it is often possible to extract the foreign body by simply pressing lightly with the flat end of a common wooden toothpick, by the side of the object. If it cannot be thus pressed out it must be dug out with a sharp spud.

SUCKING THE TRACHEOTOMY-WOUND

In some textbooks there will be found the advice for the surgeon to apply his mouth to the cut and suck out the wound, or to blow in it after removal of blood and mucus if the patient does not breathe. Such directions are hideous—for the operator is almost certain to become infected by this dangerous procedure. The immediate dangers of a tracheotomy always seem greater than they really are. Even with cessation of breathing during the operation, life may be nearly always restored by opening the trachea with speed, and then, without trying to introduce a tube, doing artificial respiration while the edges of the trachea are held apart by means of two hemostatic forceps, one being caught upon tracheal tissue on each side of the cut. Blood can be prevented from clogging up the trachea by making the opening in it larger than needed for the tube, and by bringing it up to the edges of the skin incision at once. Any membrane blocking the tube can be removed with a little cotton on a hemostat

or can be picked out with a pair of forceps. After breathing is free and easy the tube can be inserted.

OPERATIVE TREATMENT OF FRACTURES

J. A. Kelly, of New York, is an enthusiastic advocate of operative interference in fractures. He declares that in all cases in which marked comminution of the fragments is present, and when reduction is impossible, in oblique and spiral fractures of the bones of the extremities, operative inter-

vention is justified. Many of the deformities, pseudarthrosis and loss of function which seem to follow fractures will thus, in most cases, be obviated. The unsightly deformities which so seriously destroy the usefulness of the part and predispose to refracture will be prevented. Fractures complicated by severe injury to adjacent structures urgently demand operation. Under this heading may be included fractures in which pressure is brought to bear on neighboring viscera, nerves and blood-vessels, fractures associated with dislocations, and fractures involving joints.

GYNECOLOGICAL THERAPEUTICS

RUPTURE OF UTERUS

It is now pretty well agreed that the best treatment of the uterus during labor is to complete delivery and pack the uterus with sterile gauze, rather than to make any attempt at abdominal section and closure; for statistics show that this conservative treatment yields just as good results as the operative, save in the hands of the most expert operators. Whenever operation is required, total abdominal hysterectomy or supravaginal amputation has given the best results.

CURE OF ECTOPIC PREGNANCY

In safe hands every woman with extra-uterine pregnancy should be saved by operation; the trouble is that the difficulty is not recognized by many physicians, even after rupture has occurred—many patients being cured or treated for threatened abortion. Harris gives the following rule for its recognition: When any woman between puberty and the menopause, who has menstruated regularly and painlessly, goes 4, 5, 6, 8, 10, 15 or 18 days over the time at which menstruation is due, sees blood in the vagina differing in color, quality, quantity or continuance from her usual

menstrual flow, and has pains (generally severe) on one side of the pelvis or the other, or possibly in the hypogastric region, ectopic gestation may be presumed.

Blood from the uterus as associated with ectopic pregnancy has a peculiar, slippery feel, and the pains also differ markedly from those of ordinary dysmenorrhea. The pulse and temperature, except in cases of excessive bleeding, are not likely to be affected in the nontragic stage. The tragic state is ushered in by severer pains, pallor, weak and rapid pulse, lowered temperature, fainting, generally vomiting and restlessness, and sometimes a lethargic condition from which the patient can be roused. The differential diagnosis from abortion, salpingitis, polypus, uterine cancer, ovarian cyst with twisted pedicle, and intrauterine pregnancy with metrorrhagia is not difficult as a rule; but there is great importance of thorough and accurate history-taking in these cases, especially as to the character of earlier menstruations for a number of months preceding the symptoms. As soon as a diagnosis is made, operation is indicated. In dealing with women in the nontragic stage, the advice to them should be governed by the consideration that from one-half to two-thirds of all cases of ectopic gestation, uninfluenced by operation, eventuate in death, but that

with prompt and proper operation fully ninety-nine percent of the patients ought to recover.

DYSMENORRHEAL NEURALGIA

Many women suffer from a kind of lumbar neuralgia—lumbar neuralgia—during the menstrual period, sometimes without any associated dysmenorrhea recognizable as such, but generally accompanied by more or less pain referred to ovary, uterus or both. The following will be found efficacious in such cases:

Ichthyoli 10.0 (drs. 2 1-2)
 Spt. chloroformi .. 16.0 (oz. 1-2)
 Spt. camphora... 16.0 (oz. 1-2)
 Alcoholis 32.0 (oz. 1)

Mix: This is to be painted locally over the lumbar region and may be associated with warm baths and massage to the loins, buttocks and thighs.

FIBROIDS OF UTERUS

Long experience shows that fibroids occur in about 20 percent of all women who reach 35 years of age. They are practically never seen before puberty, nor do they appear primarily subsequent to the menopause.

VULVOVAGINITIS OF CHILDHOOD

In a late article Joseph Tabor Johnson quotes Jacobi and Currier as having proved that the "vulvovaginitis of little girls" is generally of gonorrhreal origin and is responsible for the frequent retardation and even prevention of the development of the female reproductive organs. The effect in adult life is to render them sufferers from amenorrhea and dysmenorrhea and often to make them sterile. It is a frequent and troublesome institutional disease, originating in gonorrhreal infection, but spreading in other ways, of course, than by sexual connection. Johnson says that gonorrhea may be considered to have fairly earned the title of the "chief moral and physical pest of our age," and in contradistinction to tuberculosis,

might be called "the great black plague." The lesson is instantly and thoroughly to treat every vulvitis of children as an acute gonorrhreal infection. By prompt and careful treatment it will be possible in many cases to prevent invasion of the internal organs of generation.

LEUCORRHEA OF PREGNANCY

Some women are troubled during the later months of pregnancy with excessive vaginal secretion, amounting in most cases to a catarrh. Every such woman should be examined for gonorrhea—secretions from the os and the urethra to be subjected to microscopic test—because many such leucorrhées are due to chronic infection with the gonococcus; and when so produced, will give the baby gonorrhreal ophthalmia unless Crede's 10-percent solution of nitrate of silver be instilled in the child's eyes as soon as delivery is effected. In other cases the leucorrhea seems to depend upon the excessive venous congestion, which is sometimes so great as to cause marked edema of the vulva during the later months of gestation.

When caused by Neisser's diplococcus, the most energetic measures must be instituted to eradicate the infection before labor occurs, else puerperal sepsis of dangerous character will almost inevitably follow delivery; special attention being directed to the urethra and to the cervix (the two chief foci of chronic infection), though the glands of Bartholin must not be neglected, the vagina being but rarely the site of a gonorrhreal inflammation. When found to be caused by engorgement the leucorrhea is best cured by rest in bed supplemented by vaginal douches of a solution of chlorate of potassium or of alum, to be followed in an hour or two by plain water. These douches should invariably be taken in the recumbent posture.

SALPINGITIS IN CHILDREN

Fortunately gonorrhea of childhood—so much more frequent than generally believed, notably among inmates of charitable institutions—does not, as a rule, implicate the

cervix and mucous membranes above it. But it must be conceded that many causes of peritonitis of childhood are due to gonococcal infection. The acute salpingitis of childhood is characterized, almost always, by a very sudden onset with severe abdominal pain and vomiting, the temperature rising, the pulse becoming small and rapid, the abdomen tense and bloated. The patients become rapidly worse and present an apathetic behavior. Cyanosis is frequently noted. When the abdominal cavity is opened in such cases it is found to be filled with a thin pus, often peculiarly tough and fibrinous. The intestinal cords are covered throughout with thick shreds of fibrin; there never is a fetid odor to the pus as is the case when the trouble originates in the appendix. The fimbria may appear either intact or reddened and swollen; pus can be evacuated by pressure upon the tubes.

The prognosis is unfavorable after peritonitis has arisen. The disease seems to be of great clinical importance, for among the 56 male patients under 10 years of age who were operated upon by Riedel for appendicitis there were eight children with peritonitis originating from the genital organs, or 14 percent. Altogether 8 patients came to operation and 7 came to autopsy. In most of these cases the gonococci and the staphylococci had reduced the abdominal cavity by way of the genital organs, without giving rise to inflammatory symptoms in the region of the vagina or the uterus. The mode of progress could not be demonstrated in a single instance. Neither masturbation nor a vaginal discharge were discoverable. The other conditions with which it may be confused are acute appendicitis, abdominal tuberculosis, acute thrombosis of the portal vein and even that rare condition, acute suppuration of abdominal echinococcus cysts, must be taken into consideration.

CANCER OF CERVIX AFTER HYSTERECTOMY

A powerful argument in favor of removal of the entire uterus instead of leaving the

cervix, when hysterectomy is indicated, is a report by Burckhard of eighteen cases of cancer of the cervical stump after supravaginal amputation. Even such a comparatively small proportion as this is important in view of the facts that panhysterectomy is no more dangerous than amputation above the cervix and that patients recover much more promptly after total hysterectomy. The shortening of the vagina is of slight import; and the weakening of the pelvic roof purely theoretical.

RETROVERSION DUE TO ABSENCE OF ROUND LIGAMENT

When it is found that the round ligaments have never existed or they are so fragile as to afford no support to the uterus (conditions not at all infrequent) ventral fixation still should not be practised save in women past the menopause. The operation of selection then is: Enlarge the incision sufficiently to permit delivery of the tube and ovary; catch a firm hold on the relaxed broad ligament fully an inch below the tube, with hemostatic forceps; scarify the anterior surface of the ligament over an area of about one square inch; pass forceps through rectus and peritoneum just as to catch the round ligament in the operation of shortening; grasp the denuded area of peritoneum, loosening the first forceps, drop ovary and tube into pelvis and pull the fold of broad ligament through the rectus muscle, and stitch it firmly with two or three chromic catgut stitches. This procedure is to be repeated upon the opposite side and the wound closed as in any other operation.

LEUCOCYTE-COUNT IN GYNECOLOGY

Albrecht has lately called attention to the importance of blood examinations in gynecological work, reaching these conclusions: (1) In acute pelvic peritonitis the leukocyte-count is a valuable auxiliary for determining the severity of the infection and its gradual subsidence or its localization and the formation of abscess. (2) In the presence of inflammatory swellings (pyosalpinx, param-

tritis exudativa, hyperleukocytosis (exceeding 15,000) points to the probability of a purulent process, especially one of long duration. (3) After the opening of abscesses a continued hyperleukocytosis indicates pus-retention and the necessity for better drainage. (4) The absence of leukocytosis is of some aid in the differential diagnosis between inflammatory and noninflammatory tumors of the adnexa. (5) In the mild cases of puerperal fever (staphylococcus infection) a relatively low hyperleukocytosis is found; while in severe cases of sepsis and pyemia (streptococcus infection) the leukocyte count is low as compared with the degree of infection; it is an unfavorable sign from a prognostic standpoint. In septic conditions following abortion the severity of the infection is generally indicated by the degree of hyperleukocytosis. In tuberculosis of the peritoneum the leukocyte-count is not materially increased.

POLYMASTIA

Supernumerary mammary glands are now regarded as being decidedly related to tuber-

culous disease, twice as many patients with this peculiar conformation having pulmonary disease as those who have not. The condition is not very common in Europe or America but is said to be very frequently met among the Japanese, and nearly as often among Malays.

EFFECT OF MORPHINE UPON THE SEXUAL LIFE OF WOMEN

Morphine acts differently upon some women than upon others, when taken habitually. At the outset it often increases sexual feeling, but after a time all passion disappears and menstruation becomes scanty and sometimes stops altogether. But that it is justifiable to create the morphine-habit in order to check menorrhagia, as proposed by some recent French authors, is the height of absurdity, particularly for fibromata which can so easily be extirpated by a skilful operator. In cancer, however, too far advanced for cure, it is the duty of the doctor to insist upon the patient's taking enough morphine to relieve pain completely, regardless of the amount required.

GENITOURINARY THERAPEUTICS

PROSTATIC CONCRETIONS

Some enlarged prostates contain concretions. Thompson declares that in calculus of the prostate the physician has an exceptional opportunity of demonstrating that "an ounce of prevention is better than the pound of cure," for while some therapy of this process is curative yet the results are to be looked for only by the administration of prophylactic measures. No matter to what stage the process has developed, three essential facts must be borne in mind: (1) Obstruction to the exit of the gland's secretion; (2) consequent retention; (3) persistent alkalinity of the urine. One is likely to find phosphatic, alkaline, fetid urine, and more or less bacteria. In order to correct these,

two methods of treatment suggest themselves: internal and local. The first demands an agent capable of rendering the renal secretion acid, sterile, antiseptic—an agent which will destroy every possible source of irritation and so preserve the urine as to prevent all danger during the act of micturition; the second includes whatever will serve the physician in overcoming obstruction and in eliminating the excessive product from which the concretions are formed. Formaldehyde-products have found the most general favor.

But in cases where an assured continuous antiseptic reaction is desirable, however, they prove disappointing, on account of the small amount of the formaldehyde set free in the bladder; furthermore when there is fetid, strongly alkaline urine, they fail to

exert anything like the necessary therapeutic effect on the reaction. "The only preparation capable of liberating a sufficient amount of formaldehyde in the urinary tract, as well as of exerting the proper degree of acidity, is what may be called a reinforced hexamethylenetetramin, formed by the addition of anhydromethylenecitric acid to the latter. By reason of this acid larger quantities of formaldehyde are set free than when hexamethylenetetramin is employed alone; furthermore, when the latter unites in the renal tract with a strongly alkaline urine such relatively small quantities of the formaldehyde appear to separate that one is scarcely able to detect it in the urine.

This reinforced hexamethylenetetramin is readily soluble in water, palatable, and when given in doses of 10 to 15 grains diluted, will be found to produce a marked change in the urine within an hour. In order to remove the retained product and to overcome obstruction of the ejaculatory ducts, no form of treatment will bear comparison with massage. Unfortunately, however, owing to the insidious development of this process, the remedy is limited in its employment. But during the incipient stage, should this manoeuvre not prove irritating, it can be relied upon invariably to remove the locked-up product which is the direct cause of the calculus-formation. Each prostatic lobe should be treated gently and cautiously once a week, and the length as well as the intensity of the manipulation by the index fingers must be determined by those conditions which experience alone enables one to infer from an examination of the gland itself.

INTRAVENOUS INJECTIONS IN SYPHILIS

Lydston claims that by the intravenous injection of mercury one may accomplish in forty-eight hours that which sometimes requires weeks to secure by the older methods. If syphilis be, indeed, due to the presence in the blood of some organism like the *filaria sanguinis hominis* (the cause of elephantiasis), and mercury possesses the power of destroying it just as quinine kills the plasmodium

malariae, the problem of perfect and immediate cure of syphilis would seem to be solved. From the trials thus far made the method seems to be devoid of danger, if properly carried out. Mercuric chloride is used, 15 drops of a 2-percent solution being injected into the median basilic, median cephalic or other vein around which a tourniquet can be placed. It is claimed that when the entire dosage is accurately placed within the lumen of the vein no local reaction whatever will occur, providing the tourniquet be moved from the arm after the insertion of the needle into the vein and before the discharge of the mercurial solution has begun; if not, the vein between point of injection and the tourniquet will be cauterized. This treatment is advocated especially in malignant cases to prevent lesions which seriously menace the integrity of the nervous system or viscera.

SOME POINTS ON THE HEREDITY OF SYPHILIS

If those who tell us to follow established authorities would read the periodical literature of the world carefully they would perhaps become less conceited and less strenuous in their advocacy of submission to authority. For almost every day we can see some new old-established notion, some new "*definitely*" decided point go to smash. Questions which were considered to be decided beyond peradventure are seen to have been decided erroneously and the most strongly established canons fall under the ax of the iconoclastic investigator.

In a paper read before the recent meeting of the International Dermatologic Congress, Prof. R. W. Taylor gives some staggering blows to our established postulates on the subject of hereditary syphilis. He first enumerates the accepted canons of belief on the subject, which are as follows:

1. Hereditary syphilis is peculiar to and generally limited to the period of first infancy. In bad cases the child is killed outright quite early.
2. The absence of general manifestations at birth or in the first years of life warrants

the assumption that the child has not been infected.

3. Early treatment in default of symptoms is not contraindicated, but is not urgently essential.

4. In many unexplained cases spontaneous involution of the diathesis may occur quite early.

5. Seeming immunity and absence of lesions in very early and infantile life warrant the belief that the child has escaped infection.

6. The disease may be cured by active treatment, and thereafter nothing is to be feared.

7. In the majority of cases the disease is exanthematic and only attacks the superficies of the body.

8. Visceral, osseous, and cerebrospinal manifestations are indicative of malignant development.

9. Late lesions are very exceptional, and their appearance (without the primordial outbreak) at later periods is rarely seen.

Prof. Taylor then proceeds to state that the ideas contained in the foregoing postulates are largely visionary and dangerously misleading. Such doctrines should no longer hold sway. It is time to appreciate fully the gravity of hereditary syphilis in all instances and only to accept established facts concerning it.

The following summary of conclusions is warranted by up-to-date observations, studies, and results:

1. The absence of very early manifestations in heredosyphilis is no criterion that the infant is not infected. Spontaneous involution of the diathesis is most rare, and can never be asserted. It is not a haphazard accident.

2. In many cases the early exanthematic manifestations may be wanting, but later on specific or dystrophic lesions may show themselves.

3. Treatment of the infected infant should always be promptly begun and persisted in as sedulously as in the adult acquired disease.

4. Age and treatment tend to cure the child.

5. The view that inherited syphilis is at first superficial and later becomes deep and visceral is false, since the whole organism is involved from very early life.

6. Syphilis hereditaria tarda is not exceptional; it may occur at about the eighth and twelfth years, and even earlier, and frequently is encountered at all periods up to the thirteenth year of life, and perhaps later.

7. The opinion that the birth of one or several heredosyphilitic infants is invariably by the procreation of other and later infected children or by constant miscarriages, and that such a mother may become permanently sterile is not warranted by facts, since luetic mothers may give issue to several infected children and by means of active, prolonged treatment and by the lapse of time may be so relieved or cured as to enable them to give birth to seemingly untainted offspring. Such a result is obtainable in most cases if proper care is exercised.

ATROPHY OF TESTICLE AFTER PAROTITIS

That inflammation of the testicle often accompanies parotitis, with consequent sterility, is well known; but that atrophy of the testicle follows is not so generally understood. The reason is that the atrophy does not occur immediately but is preceded for several months by an abnormally soft consistence of the testicle. As atrophy takes place so comparatively late it often escapes the attention of the physician. If the atrophy only affects one testicle, as is commonly the case, the effect upon sterility is scarcely probable. In all cases of orchitis complicating parotitis, atrophy with sterility are the important factors that must be considered.

CANCER OF THE MOUTH

In cancer of the mouth too far advanced for removal Wright says the malignant growths may be kept under excellent control by injecting carbolized petrolatum (3 percent strength) into the tumor.



NEURASTHENIA AND ITS TREATMENT

A description of the symptoms of this disease, its many manifestations, with methods of treating it and its complications, as practised by the French dosimetrists

IRRITABILITY, ill humor, discouragement, the impossibility of collecting one's thoughts without falling into reverie, the spirit of contrariness, despondency, the feeling of exhaustion, irresolution, indifference, are the principal symptoms of nerve-weakness. The neurasthenic gets out of life only that which is evil in it and tastes none of its sweets because he is ceaselessly anxious about the bad things which life is preparing. This fear about what is to come, of deception and of permanent disillusionments torments, saddens and desolates the patient, who is always unstable and at times even prostrated by the fact of nervous depression. These psychic signs are accompanied by digestive troubles, vertigo, irregular sleep, emaciation, throbings of the heart and of other regions, nerve-trembling and localized pains.

The features are drawn, the cheeks glossy and pale, the eyelids dark, the eyes red, the senses changed (sensitivity to noises and odors, ringing in the ears, weak sight, *muscae volantes*). At times the neurasthenic has strange and odd sensations, such as that of an icicle down the neck, pinchers on the nose, cobwebs on the forehead (which last sensation perhaps gave rise to the French popular expression, "*avoir une araignee dans le plafond*," which means,

to have cobwebs in the ceiling, i. e., in the head).

Among the digestive troubles we notice frequently enough bulimia, the patient requiring a very strong stimulation in order to make some certain effort, declaring himself to be unable to do some certain things except after a solid square meal. And that bulimia is paid for of course with heaviness, flatulence, gas-distension, stasis, and fermentation with all their toxemic consequences, which exasperate and perpetuate nervous misery. Against this bulimia one granule each of cannabisine, hyoscyamine, Gregory's salt and cicutine, taken half an hour before each meal, will exert a sedative and moderating power, most useful for the stomach.

The headache of the neurasthenic consists of that heaviness which is described as "a helmet on the head," of frontal, ocular, and temporal pains, or pain in the back of the head and neck. Very marked is this pain when the stomach is empty, and it becomes less after a meal, and it may begin again as a result of noises, emotions and work.

Spinal irritation causes also rachialgia with sensations of heat, burning, lumbago, lancinations in the vertebral spinal processes, a feeling of constriction rendering

the contact of the very garments painful, the cervical and sacral regions being the preferred spots for attack. For these as well as for the headache and rachialgia monobromated camphor and quinine valerianate are the remedies. Rachialgia may at times require slight revulsives, such as spirit of camphor, mustard plasters and stupes, or even a firing-point.

We find neurasthenics who sleep well, but as they lack the feeling of restoration and refreshment on rising in the morning they readily imagine themselves not to have slept at all. For that reason it is that often on their arising they are anxious, sad, harassed by uncouth ideas, accompanied with a feeling of tiredness more marked than at their going to bed. To the strange phenomena of the neurasthenics belong also the colorless voice, aphonia, the same as we meet with in convalescents; a sense of choking during a meal; succussion of muscles, similar to electric shocks on going to bed at night; more strange yet is a feeling as if the lower extremity were undressed; fibrillary contractions; swooning, waves of heat; a sensation of freezing of the extremities from the weakening of the vaso-motor tonus; fragility of hair, nails and teeth; creaking in the neck; hay-asthma and false angina pectoris. To this let us add yet nocturnal cramps, and on this occasion let us say that the professional cramps of writers, pianists, and violinists show a very clear neuropathic origin, not, however, excluding arthritic elements.

Certain subjects are attacked in their emotional sphere and present the neurosis of anguish. Others again experience a nerve-crisis upon a sudden atmospheric disturbance, or when displeased or opposed: then the chest is compressed, the head is hot, the temples throb, the cranium is felt as if being struck with a hammer, the face becomes red and swollen, and the features drawn, the patient feels that he must move and spend his energies, and he does it at times with cries and sobs, and the crisis terminates with tears and profound prostration. These crises may be relieved by inhalation of ether, by granules of camphor

monobromide, and by those of phosphide of zinc, six of each (*pro die*) combating these crises, which weaken the senses by repeated attacks on a depressed state which entraps and binds them.

The neurotic borders frequently on mental alienation and general paralysis of which neurasthenia and hypochondria are really only prodromata. The neurasthenic state may last at times for years before the unmistakable signs of mental deficiency show themselves, and then the doors are opened for the patient to what is euphemistically called the sanatorium! But isolation as a treatment is really useful in the first phases only of neurasthenia, when suggestion can render its services, and suggestion can really be best practised in isolation, in the absence of friends' idle talk and the reasonings of parents and relatives who, like Penelope of old, destroy the woven fabric of the physician's good counsels. Suggestion is the grand remedy, and often it is the only remedy against the aberrations of psychic instinct; instead of constantly analyzing, suggestion lets us accomplish our end after the manner of the Gobelin weavers, without seeing the thing we work at.

The treatment consists first of all in checking the physical or mental causes of neurasthenia. We must act against the phosphorus deprivation, which goes on by phosphaturia and which is the tangible cause of musculonervous lack of power, and we must do it chiefly by means of alimentation, because pharmaceutical phosphates are very uncertain of assimilation. We find in cereals, in milk-products, in eggs, in brains, in Gruyere cheese, in malt beer, in fish, in the entire body of molluscs the greatest store of phosphorus. Then living in the open air is indispensable for the city neurasthenic, by which he both perfects retarded oxidation and stimulates nutritive changes. One month of out-of-door treatment suffices at times to eliminate from the urine the excess of urates and phosphates, the creatin, the indican and even any traces of albumin which they may contain.

If anemia is dominating in a case we must hasten to enrich the blood-globules with

iron and notably with quinine hydroferrocyanide, which beside its hematoplastic action possesses also an elective influence on the vasomotor system. If there is an overexcitement of the nerves we give the bromides, especially those combined with camphor, also with zinc phosphide and hyoscyamine. Against depression and exhaustion of nerves we have in strychnine arsenate and in stenol (a combination of caffeine and theobromine) just what is therapeutically needed to raise the general tonicity and wake up the excitomotor power of medullary centers and thus fight at once against psychic adynamia (psychasthenia) and against nutrition-atonny. We may give two or three granules of strychnine hypophosphite before meals and one or two teaspoonfuls of stenol after the meals.

In case of gastrointestinal phenomena the effervescing magnesium sulphate, papain, quassia and an abdominal bandage will give us the happiest results. [THE GLEANER personally uses the following in cases of abdominal slow venous circulation: Narrow Russian crash toweling, long enough to go three times around the body. Moisten in moderately cool water one length to go around the abdomen and wrap the dry remainder over the wet part, and fasten the end moderately tight with safety pins. Keep it on only during waking hours. It will take a little expertness to do it properly, but the trouble of doing it will be paid by the diminution of the abdominal trouble from congestion caused by visceral ptooses and other causes.]

Against palpitations, cardiac pains and false angina pectoris we may prescribe quinine valerianate, sparteine and the salicylates in feeble doses. In case of nervous angina we prescribe Gregory's salt. Given at the start it will weaken the agitation and increase confidence.

In persons of hypertonicity it will be best to neutralize the humoral acidity (see at the end of the article) and facilitate elimination, and for that purpose prescribe alkalis, laxatives, diuretics, and above all, ureol [the chemical name of its basis is hexamethylenetetramine.—GLEANER] an antiuricemic *par excellence*. Give a milk and

a chlorin-free diet, order baths, friction and d'Arsonvalization (high-frequency current). These various remedies will sensibly modify nervous irritability. In cases of hypotonicity we make use of the tonicardiac granules and force up the activity of the circulation by a special diet of good living, good generous wines, inhalations of oxygen and hypodermic injections of artificial serum, which are by no means to be neglected.—Dr. E. MONIN, in *La Dosimetrie*, March, 1908.

TOXICITY OF DUODENAL SECRETIONS

Roger and Garnier have previously established the fact that the contents of the small intestines and especially that of the duodenum are more toxic than those of the large intestine, so that, contrary to the classic opinion, the toxicity of the intestinal contents does not depend exclusively upon putrefaction. This toxicity of the duodenal contents does not depend exclusively upon the emptying of secretions into this part of the small intestines, an opinion which Cybulski and Tarchanoff have recently maintained, and which they attributed to the pancreatic juice. When we collect the liquid which accumulates in a duodenum that has been ligated at its two ends, under the influence of injections of secretin, (duodenal extract), this liquid injected into a rabbit, even forty to fifty cubic centimeters per kilo-weight, will not determine the immediate death of the animal; the duodenal liquid of a dog collected under the same conditions as above is toxic to a rabbit in a dose of four cubic centimeters to the kilo-weight of the rabbit, and this is a toxicity far below that of a duodenal contents of an animal while digesting, which is from a half to one cubic centimeter per kilo-weight.

If we collect by a fistula the pancreatic juice of a dog obtained by injection of secretin we shall find that the injection of even 16 to 20 centimeters per kilo-weight of a rabbit will not kill the animal. This pancreatic juice will not become toxic unless it be mixed with a certain quantity

of duodenal juice, then it will kill in doses of two to four cubic centimeters per kilo by producing coagulations in the right heart. This activation of the pancreatic juice by duodenal liquid is not due to the presence of bile: the mixture of pancreatic juice with bile is not more toxic than bile alone, which kills a rabbit in the dose of eight cubic centimeters per kilo-weight. This action is therefore that of the duodenal juice.

In the same way, too, it is that in order to obtain the digestion of albumin we have to provoke toxic manifestations by uniting pancreatic juice with duodenal juice.—(*Gazette des Hopitaux*, 1908, p. 489.)

TREATMENT OF BURNS

J. C. Biddle recommends the following ointment for burns, which he says he used for the last twenty-two years with great success: Lead oxide, 455.0; acacia, 30.0; sodium bicarbonate, 10.0; linseed oil, enough to make a soft ointment.

Wash the burn-sores thoroughly with soap water, spread the ointment over the sore, cover with cotton batting and secure with a bandage. Fingers must be dressed each separately. Limbs must be kept stretched out. This dressing need not be changed often. Lead poisoning from this ointment the author never met with as long as the ointment was compounded with gum arabic.—(*Les Nouv. Remedes*, 1907, p. 479.)

POTATOES IN THE MENU OF THE DIABETIC PATIENT

Mosse has ascertained that the diabetic patients have a surprising tolerance for potatoes and that the glycosuria may be favorably influenced by the patient's feeding on potatoes. Labbe retested the statements of Mosse and warns against the use of potatoes *ad libitum*, since such an unreasonable use may aggravate some diabetic's condition. The patient's tolerance for carbohydrates has first to be determined. If the potato is to a certain amount, tolerated, then it may be of

great usefulness in the diabetic's diet because it has a greater volume than other farinaceous foods. The potato has from two and one-half to three times less carbohydrate than the same amount of bread and therefore potatoes can be given in three times as great weight as bread. The potato is generally a favored dish and has the additional advantage of being capable of preparation in various ways, and it can absorb a large amount of fat. Fried potatoes retain from seven to nine percent and mashed potatoes still more. Moreover the diabetic patient is more tolerant for potato-starch than for that of the bread.—(*Pharmazeutische Zentralhalle*, 1908, No. 9.)

BLOOD SPOTS ON WEAPONS

A. Florence succeeded excellently in making such spots visible and to determine their origin. He uses a microscope with an internal illumination apparatus and in this way is able to see the individual blood-corpuscles and photograph them. The procedure is extremely simple and makes it possible to recognize the minutest traces of blood upon nontransparent objects with a certainty hitherto unknown. This procedure moreover has the advantage over all others in that in demonstrating the blood it is neither destroyed nor changed.—(*Arch. d'Anthropologie Criminelle*, June, 1907.)

BELLADONNA, DATURA, AND HYOSCYAMUS

According to Peltrisot the powdered leaves of the above plants can easily be distinguished from each other under the microscope when close attention is paid to the crystal-filled cells and the hairs, thus:

Belladonna: Hairs few and smooth. Cells filled with crystalline flour.

Datura: Hairs few and dotted. Cells few with crystalline flour, but very many oxalate "druses."

Hyoscyamus: Many voluminous smooth hairs. Few cells with crystalline flour. Numerous prisms.—(*Bull. d. Sciences Pharmacol.*, 1907, p. 575.)

MISCELLANEOUS ARTICLES



WHAT REMEDIES SHALL WE USE?

A discussion of the Kentucky resolutions and other efforts to limit the doctor in his choice of remedies and the selection of his reading matter. Shall he be a free agent?

AT the December meeting of this Society a set of resolutions from the Kentucky State Medical Association were introduced for our consideration and adoption, the sum and substance of which was that we as a body and as individuals would pledge ourselves to use in our practice only such remedies as are endorsed and recommended by the American Medical Association or the authorized agents of that body known as the Council on Pharmacy. Consideration and discussion of these resolutions were postponed until this meeting and the members present requested both Dr. J. W. Gray and myself to prepare a paper on these resolutions and shed some light on the subject.

That section of these resolutions that mostly concerns those of us who are of the rank and file of the profession reads as follows: "Resolved, that we request every physician in Kentucky to procure a copy of the abridged United States Pharmacopeia and National Formulary and be guided by these and the Council on Pharmacy in their use of medicine."

I do not know that the Council on Pharmacy sanctions or endorses these resolutions, but if it does, it seems to me the most stupendous piece of bigoted egotism it has ever been my misfortune to behold. Who is this great Council on Pharmacy

that the U. S. P. should need its endorsement or approval; are not those men who revised and compiled that book fully as well versed in *materia medica* and *therapeutics* and as able to advise as to the remedies to be used as are those who compose this august body? Certainly it would seem so to me.

Ever since medicine has been known and men have practised it there have been various sects or schools of medicine radically differing in their ideas and teachings regarding disease and the proper remedy or drug that should be used in the effort to cure disease. In this age we have the allopathic (or regular, as we call ourselves), the homeopathic, the eclectic schools, and many others, each one claiming their method the only correct one. While this is not true, it is nevertheless true that there is much that is good in each of them and much that is worthless in all.

While I admit the Council on Pharmacy is doing a good work, we all know it is the agent of the American Medical Association, and that body is the official representative of the regular school, hence it naturally follows, as a matter of course, that it does not take cognizance of remedies advocated or prepared by other schools.

I believe, if there is any man or set of men who should adopt as their motto, "prove

all things, hold fast (only) to that which is good," it should be the physician, and he should go to the bedside of his patient untrammeled by the *dictum* of any man or set of men, free to use the best means at his command to relieve his patient, regardless of the sect or school that recommends the remedy he employs.

That old saying, "the powers that be are ordained of God," does not hold good in this day and generation. I have seen instances when I thought his satanic majesty had more to do with the ordaining of the powers than did the Supreme Being. I have always lived in the South, was born before the war, hence I was a rebel, and (perhaps) unfortunately for me, I have never been fully "reconstructed;" therefore that old rebellious spirit that is in me, and will not come out, gets up on its hind feet when I know any man or set of men are infringing on my rights. I strenuously deny the right of the A. M. A. or any other body of men to dictate to me what remedies I shall or shall not use. I claim that so long as I comply with the laws of the land in which I live I am accountable only to God and my patient for my conduct toward them.

It is not my wish nor intention to exploit any remedy or set of remedies. I leave the choice of remedies to each individual physician, as he alone should be the judge as to what is best for his patient. I only plead for freedom, the freedom granted everyone in this great country of ours—freedom of thought, of judgment, of action, untrammeled by the *dictum* of any man or set of men.

I am of the opinion that there is more in these resolutions than is seen by a casual glance, and we are forced to ask the question, "Whither are we drifting?" There is a spirit of usurpation abroad in the land, seemingly an effort to concentrate or centralize power in the hands of a chosen few. There is a fight being made on the independent medical journals, quite a number claiming they are a menace to the welfare of the profession and should not exist, that the members of the profession

should subscribe only for and read those journals that are the organs of the state or national organization. Also, in some of the states an effort is being made to get a law enacted forbidding physicians dispensing their own medicines and compelling them to send all their prescriptions to the druggist.

Now the enthusiastic admirers of the great Council on Pharmacy ask us to pledge ourselves to use only such remedies as they in their wisdom think best for us to use. If these things come to pass, truly the medical profession would cut a ludicrous figure. The great *J. A. M. A.* and the state journals will dish out to us such articles as they think we should read; the druggist will give us what we order, if he has it, if not, he will give us "something just as good;" the Council on Pharmacy will tell us what medicines we are to use; while we, to quote one of our forefathers, can "lie supinely on our backs" and meekly accept what is given to us.

I protest against the adoption of the resolutions, because in spirit, if not intent, they throttle all independence of thought and investigation and would make of the medical profession a set of irresponsible, ambitionless men, mere pawns in the game of life, moving only as we are told. But in contrast to this spirit of bigotry and egotism there is and has been for some time a spirit of tolerance and liberality, one for the other, in the different schools of medicine, seemingly an inclination to draw nearer together and accept the good each or all may offer. This I think should be fostered and encouraged in every honorable way, and I believe I am safe in saying that the liberal-minded leaders in the profession are doing this and apparently do not hesitate to prescribe remedies from other schools than their own and seemingly do not hesitate to endorse and recommend them. This is as it should be, but with all due respect to the American Medical Association, it does not seem as if the present leaders of that body favor such a course.

While counsel and advice are good and should always receive proper consideration

and respect, when it becomes an obligation it is no longer advice. There are very few well-informed physicians that are willing to discard a remedy they have tried and know to be good simply because such remedy is not recommended by the Council on Pharmacy. Long years of experience have taught many of us that a remedy that gives good results in the hands of some may prove worthless in the hands of others. Again, a remedy that is beneficial in treating certain disease-conditions in one person may prove worthless or unsatisfactory in treating another whose symptoms are seemingly identical.

Hence I say, let the medical profession, especially those of us who are country doctors, remain free and untrammeled in treating our patients, but let each of us study our cases, and study our remedies, and do for our patients what our knowledge and judgment prompt us to do. If we have not a sufficient knowledge of drugs and their effects on the human system to know what to use and what to let alone we have no right to practise medicine. If we know these things, certainly we do not need the dictation of the A. M. A. When a physician reaches that age or condition wherein he can not, or will not, be guided by his own judgment and knowledge in treating his patients, he should feel in duty bound to those who trust their lives into his care to follow Osler's advice and get on the shelf or take chloroform, be his age what it may.

One or two gentlemen made the assertion that the word "nostrums" as used in these resolutions has reference to patent medicines. Allow me to say, that the greater part of the first thirty-five years of my life were spent in Kentucky. I practised medicine there and have many warm friends among the members of the profession in that state, hence I know whereof I speak when I say that in intellect, professional attainments and gentlemanly courtesy they will favorably compare with members of the profession in any state in the union. Therefore it is hard for me to believe that the State Medical Association would so far forget the courtesy due their professional

brethren as to pass resolutions even only insinuating that they were so ignorant of *materia medica* and *therapeutics* as to use patent medicines in their practice. Such a resolution would be an insult to the dignity and intelligence of the profession of Kentucky.

To the young men in the profession, those who are at the beginning of life's journey—while I am near its close—to you I would say, "Be not like dumb driven cattle." Be men, think, judge, act for yourselves, cultivate a habit of independent thought and investigation, guided but not controlled by the study and investigation of the learned men of the profession; and, after careful study, form your own opinions and be guided by them until convinced you are in error. Be ever open to conviction and ever ready to learn, regardless of who the teacher may be. Often valuable information is derived from very humble sources.

Take for your motto the words of Thomas à Kempis, who said, "Mark not who said this or that, but mark the word spoken." Rest well assured, no man can carry your burden—that is for you alone to bear, and you alone will be accountable to God and your fellow man for the life you lead. Rest assured you will find it the part of wisdom to think for yourselves. Study closely the theories advanced and judge them on whatever merit they possess and not on the merit or reputation of the man who advances them.

Very soon on your shoulders will rest the responsibility of upholding the honor and integrity of our noble profession. Strive to acquit yourselves as true men and prove yourselves worthy of the trust.

H. C. BUCK.

Friars Point, Miss.

[This paper, which was read before the Clarksdale and Six Counties Medical Society, at Clarksdale, Miss., is full of good advice and excellent thought, and the spirit in which it is written should commend it to every man who does his own thinking. We agree with Dr. Buck, *thoroughly*. With all

proper respect for the excellent but misguided men who would have all people believe and practise exactly the same things they do, because they are convinced they are right, and whoever disagrees with them wrong, we pin our faith to intellectual freedom, to the individual doctor—believing in the right and duty of every man to seek truth *for himself*. That's our Declaration of Independence, and that, in our opinion, is the only way in which intellectual growth and vitality can be insured. Let us have free men in our profession, from top to bottom, not a condition of mental slavery that makes men fear to leave the broad, well-traveled roads of authority lest they too feel the crack of the *master's* whip. The humblest among us, as well as the most learned, has this right to freedom.—ED.]

VARICOSE VEINS

Every physician engaged in general practice meets with many cases of varicose veins. Of course there are a variety of causes, but one great cause doubtless is wearing garters that constrict the leg and prevent the free return of the blood in the veins. Might not much of this trouble be prevented by physicians generally recommending a garter with a double hitch which would in no way interfere with the circulation?

W. H. HARWOOD.

Chasm Falls, N. Y.

[Why not have a general expression of opinion from the "family" as to the best treatment for varicose veins? This is a common and annoying disease. How do you manage these cases, Doctor?—ED.]

A CASE OF ELEPHANTIASIS

Mrs. N. Y., 63 years old, born of English and German parents, both of whom lived to be past 75 years of age. Mrs. Y. is a mother of twelve children, the youngest now being 22. Her early motherhood was spent in Minnesota, then she moved to Southern Texas. After living there a short

time she began to have chills followed by fever. In about three months after the chills appeared her right foot began to hurt, and this was followed by some swelling. After a day or so of some pain the swelling would disappear, only to return in a few weeks. After each attack of pain and swelling she noticed the swelling would not entirely disappear. For ten years this affection was wholly confined to the foot,



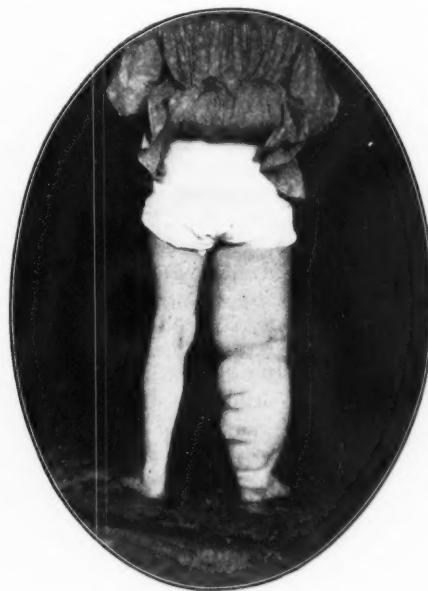
Front View of the Case of Elephantiasis

then quite rapidly it extended as far as the knee. Some twelve years after this disease began, in 1886, her last child was born, and in a short time, perhaps one year, the whole right limb was affected, and at one time for a few weeks the entire right side to the shoulder was swollen.

The above is the history of the case as I was able to obtain it from her. The woman is very intelligent and I believe she gave me a good report. I have known her for twelve years and have attended different members of her family, including herself, in sickness. Whenever I have attended her it was when she had "spells with her leg."

These spells are always ushered in with a chill and intense pain in the limb. The limb becomes very feverish and painful to the touch. Several times I've found her temperature to 104° F. During these spells with her leg she would be entirely unconscious. I have known her to be unconscious for four days.

I will not try to describe the appearance of the limb but instead will send you two photographs, which show for themselves.



Rear View of the Same Case

The whole limb is smaller now than it has been in ten years. The measurements of the two limbs are as follows:

	Right	Left
Ankle	16 in.	11 in.
Calf	24 "	14 "
Knee	23 "	15 "
Middle of thigh.....	25 "	15 "
Highest part of thigh.....	25 "	16 "

The right ankle has measured 24 inches. The limb is always larger in the summer. There is some uneasiness in the limb all the time. Other than this she is a very healthy woman. The x-ray will penetrate

the foot but not the hypertrophied portion. The foot now is enlarged but very little.

JOHN TINDER.

Parsons, Kans.

[This is a remarkable case and of much interest. I think, however, the case is one of true elephantiasis, due to filaria. The occurrence of intercurrent attacks of erythema in the affected part is a marked feature of this disease. I have found immense benefit resulting from the application to the effected limbs of an india-rubber bandage. In fact, after using it a few weeks the patient has invariably assured me that no money could buy that bandage from her. Since this is a filarial affection, and the "sleeping sickness" is also a filarial malady, and the latter has been found to be benefited by the internal administration of atoxyl, an arsenic preparation, I would suggest the propriety of putting this patient upon atoxyl and pushing it to full action, that is, to saturation. If you accept this suggestion, I should be very glad to hear of the results. Elephantiasis is not a very common disease; nevertheless, among our readers there must be a good many cases known, and I am sure that the successful treatment of a case would be welcomed with the deepest interest.—ED.]

A CASE OF CROUP

I think it only just to tell you of my success with calx iodata in croup. I have used it in many such cases, but one case deserves special mention.

I was called hurriedly to see a boy nine years old. When I got to his home his mother was returning with a neighbor and told me I was too late. She said she guessed her boy was dead and she would not go into the house. I said I would have a look at him anyhow. I found the boy stretched out, mouth wide open, gasping for breath, and a very great cyanosis visible.

I immediately commenced to give iodized calcium; we had trouble getting him to take it. All preparations were made for his passing away and their clergyman was sum-

moned. Knowing how the drug had acted for me before, I said he would recover. I worked for him for one and three-quarters hours, and when he found that he was getting his breath easier he begged for more medicine. I gave him a good dose every quarter of an hour and pushed it to the limit. He begged at first to be taken outside for fresh air. He got absolutely stiff and the cyanosis was very marked. The nostrils expanded to the utmost possible during the great dyspnea. When I left at the end of one and three-quarters hours he was perfectly comfortable.

When I first saw the boy the neighbors all said it was no use doing anything because he was going to die, but when I returned in the evening, to be sure everything was all right, these same women were advising what to do in case he ever had croup again.

I treated the same patient two months previous to that for lobar pneumonia and used the alkaloids throughout the disease, the patient having reached the stage of consolidation when I was called.

Some people laugh when I leave such small pills, but are willing to admit they are all right when they have cause to cease taking them.

As you are overloaded with case-records I have not sent any. I simply want to tell you that what you say is true—examine the case thoroughly, select the proper drugs, and then push them to the limit. As long as we have good drugs, like the active principles, we can do good work and know what action to look for.

W.M. S. MCCORMICK.

Philadelphia, Pa.

WAS IT PNEUMONIA?

Can pulmonitis or any other disease be prevented? is a question often asked and often laughed at by those who pretend to know it all and who have had only a theoretical learning without any clinical experience. These men have without any logical reason classified such diseases as self-limited diseases. There is not such a thing as self-limitation in diseases. Every ailment, every

disturbance, if taken in time, can be cut short, even aborted, if treated in the right manner.

Here is a case which is a proof or what I have advanced. One night, not long ago, the snow was covering the ground and the air was cold and invigorating. I was suddenly called to see a child, age seven years. On seeing her, my first impression was very sad indeed. I had before me a child nearly suffocating, breathing as fast as she could. A decided pinkish color covered her little cheeks, her looks were haggard, her mind wandering. A very severe chill had preceeded these symptoms.

On examination I found crepitant râles all over the chest; the heart's action was so rapid that I could not count the beat; axillary temperature was 108° F. A cough existed for which the parents had given different patent syrups. *Horribile dictu!*

I was, I think, in presence of what I term a *pneumonie d'emblée* (incipient pneumonia). I became desperate. I had to "kill" that fever and reestablish the heart's action and equilibrium of nervous center. I had some glonoin, digitalin and strychnine tablets for hypodermic use. I immediately gave an injection, full dose. A sheet was dipped into cold water, wrung out, and the child, naked, placed in it. A tremendous chill took hold of the child, it was the reaction-chill, as I called it at the moment. Little by little the patient became quieter and the breathing more steady. I did not forget the little granules. I had ten dosimetric trinity granules dissolved in 20 teaspoonfuls of water. At first one teaspoonful every half hour for eight doses was administered, and afterward one teaspoonful every hour. The wet sheet was removed when dried, during the whole night.

Next morning, when I called, my little patient was feeling better; the fever had gone down to 102° F.; but the weakness was great. Brandy and water was ordered, and the following special cough-mixture:

Ammonium chloride.....	grs. 2	
Carbolic acid.....	gr.	1-6
Syrup of squill.....	dr.	1-2
Syrup of tolu.....	dr.	1-2

This dose (1 teaspoonful) to be repeated 3 times a day.

I continued the dosimetric trinity granules, one every 2 hours, until next day. Twelve hours thereafter the fever had gone down to 100°F., and twelve hours after that the temperature was normal; but the child was very weak and the cough remained. In a week's time the child was up playing in his room.

Call this whatever name you please, it is evident that a serious trouble had been averted by the timely interference of the physician, and I am sure that the little defer-vent and dosimetric-trinity granules, with the help of hydrotherapeutic measures, saved the life of that child.

F. D'ORBESSAN.

Ozone Park, N. Y.

LAPSUS CALAMI

In the April number of CLINICAL MEDICINE we made a rather "bad break" for which we take this opportunity to square ourselves. We said, page 459, that Philadelphia "cannot yet support a really live medical journal." What we intended to say was that Philadelphia "cannot yet support a really live *weekly* medical journal." The Quaker city really has about the liveliest bunch of monthly medical journals published in this country or anywhere else. A town which can boast of such journals as Sajous's *Monthly Cyclopedie*, *The Medical World*, *The Medical Council*, and Albright's *Office Practitioner* is certainly to be congratulated. We tender our apologies to all these journals and their editors and publishers. They are all doing great work and should receive the hearty support of the medical profession, each in its own peculiar field.

PNEUMONIA. THE "SQUARE DEAL"

I report no cases other than six cases of pneumonia, three of which were pleuropneumonia, all treated wholly along the alkaloidal line of practice, all relieved on the fourth or fifth day, and all recovering. Some say, "We all have cases that terminate or abort in a few days without much, if any, treat-

ment, that is, your cases were not real pneumonia, because they did not go on in the regular line to the 'hole in the ground'." I tell them, if they had been their own cases and the treatment were not mentioned, they would certainly have had six cases to their credit that were "cured" of pneumonia.

Doctor, you have a host of friends who will hold up your hands, not as members of a sect, but as searchers for "Truth," and *The Journal of the American Medical Association* is one of the best advertising mediums you have. Down a good thing? Never! If more physicians would study drug-action and the use of the active principles, as you are so earnestly teaching, there would be fewer nostrums and proprietary remedies in the market.

Why any sane physician can "have a kick" on purity of drugs has always puzzled me. That "my patients have been used to large capsules and bitter and nauseous doses so long that they would not have any confidence in my treatment," is a pretty poor argument. God pity the man with such an excuse for confidence. In my opinion many a case has gone to the undertaker, not because of misapplied remedies but because of the remedies applied; the "golden opportunity" was lost eternally waiting for the action of the active principle that the fluid extract or tincture or crude drug did not possess, the chagrined doctor wondering all the while why he lost the patient.

I cannot help but commend you, Doctor, for the good you have done me, and can't keep quiet longer in expressing to you my contempt for the way you are being served at the hands of *The J. A. M. A.* I am not a writer, and this is not for publication unless you think it will fill in a little notch that possibly has not been handed up. May *THE AMERICAN JOURNAL OF CLINICAL MEDICINE* continue to prosper in the future as it most certainly has in the past, is the wish of yours for truth,

I. L. TURMAN.

Cynthiana, Ind.

[We are glad to know, Doctor, that you stand with the rest of our friends in con-

denning this unjustified and malicious attack upon us by *The Journal of the American Medical Association*. The doctors of America know what we are striving to do and what we have really accomplished. I wish you could see the hundreds of letters like your own which have come to us, endorsing the work we are doing and condemning the action of *The Journal*. Men who have been helped in their daily practice, who have found the alkaloidal preparations good and the Abbott doctrines sound, are not going to be stampeded by venomous personal attacks. The alkaloidal idea is founded upon sound principles which nothing can destroy, and in practice it is fundamentally honest and straightforward from beginning to end. This great therapeutic movement will stand. There is all the vitality of truth behind it.—ED.]

THE STINGAREE

Having noticed your article in the May CLINICAL MEDICINE, page 610, entitled "The Stingaree," and having lived for two years in the little town of Manatee, Florida, on the bank of the Manatee river, only eight miles from the gulf of Mexico, I will say that the stingaree inhabits both the river and the gulf.

Along the Gulf Coast we have little villages of fishermen, who naturally have to be in the water and are exposed to the wrath of the stingaree, and are often stung by them. They inflict a very painful wound, but not necessarily a fatal one. In fact, under proper treatment the wound soon heals, but without proper care and treatment the sting makes a very ugly sloughing wound. The mortality is not more than one in a thousand, if that.

Old seamen tell me that the stingaree is not dangerous except in its breeding season. Then they become vicious.

Treatment.—Incise the wound to the bottom, wash the wound in a solution of permanganate of potassium, then cauterize well with pure carbolic acid, which renders the wound aseptic and relieves the pain. Then saturate a piece of gauze or absorbent cotton with carbolic acid and pack the wound to

the bottom loosely. Dust with iodoform and dress with gauze and bandage and leave alone for twenty-four hours, then remove the packing from the wound, wash with some good antiseptic solution, such as bichloride of mercury, one in 2000 (or a solution of permanganate of potassium), dust with iodoform and dress with gauze and bandage. Treat it in this manner for three or four dressings, and that is all that is necessary. I do not think the stingaree has a venom like a snake, but the poison is on the outside of the sting.

We also have the diamond-black rattlesnake here, and it is considered the most dangerous of all reptiles, fish or animals that inhabit this country. Its venom is very poisonous, and the mortality very high. Evidently the men that were talking to you knew but very little about the sting of a stingaree or the bite of a rattlesnake. It is almost sure death to be bitten by a rattlesnake if help cannot be obtained at once, and even then the mortality is very high. If a large rattler bites a dog he will die within two or three hours—sometimes within thirty minutes. This is the difference between the bite of a rattlesnake and the sting of a stingaree.

T. M. McDUFFEE.

Manatee, Fla.

SOME THERAPEUTIC COMMENTS AND QUESTIONS

Why do not all doctors use the alkaloids in alkaloidal form? I have taken THE CLINIC from the first, when it was almost too young, weak and small for care in an incubator. I have often thought of writing my views and experience with, and the superiority of, the alkaloids, but the case is so plain in favor of alkaloids that argument seems foolish and a work of supererogation. We had as well make arguments on a bright day that the sun was shining.

I might also ask why all physicians do not take THE AMERICAN JOURNAL OF CLINICAL MEDICINE. Each year it grows better.

As to the case in the April number, page 504, would not Donovan's solution answer

all of the purposes of "arsenauro?" Would not Donovan's solution be a good preparation of mercury to go in a prescription containing potassium iodide, or would the bichloride be the best preparation? If we cannot use the green iodide of mercury at the same time iodide of potassium is given, then we cannot use this preparation in the "mixed" treatment of syphilis.

Dr. Sourwine's curet: Can one with ordinary skill with it remove all contents and abnormal tissues without danger of puncturing the uterus?

"Medical Partnerships," page 469: The article and idea are good, though I think the suggestion that either one or all of the members consult with the attending physician without a consultation-fee, a bad idea, calculated to cheapen the services and standing of physicians in the eyes of the laity, and would do away to a great extent with the physician's individuality. Am I not correct?

To act on the advice given in the article, "The Day of the Hustler," would it not be necessary for the doctor to advertise in the papers or "by word of mouth?"

Page 63, "Dosage for Children:" The other night, fourteen miles from home and by the dim light of a small lamp in a little mountain cabin, I formulated the following rule: The patient being 4 years old, I took 24 years as the full adult age and divided that figure by the child's age (4 years), which produced 6. Then dividing the adult dose of strychnine of 1-30 grain by 6, I had 1-180 grain for the single dose for the child. This gave me 4 granules of 1-30 gr. in 24 drams of water, and the dose 1 dram three times daily. This gives the same results as Cowling's rule if the figure of present age is used instead of that of next birthday.

Is not the rule by weight uncertain, as the amount of adipose tissue varies? Is 1-180 grain of strychnine too much for a child 4 years old?

Page 556: I wonder what Dr. W. E. Baldwin charged for healing and aborting that case of pneumonia—detention of time all night. Should not a doctor be paid extra for efforts and success of that kind? How much extra? If so, the granules would

make money both for patient and doctor, instead, as now often is the case, the doctor's bill is much less on account of quick recovery.

Can you give me the formula for a "hair tonic" known as "Baker's Hirsutis?"

C. W. HUNT.

Brevard, N. C.

[These letters from old friends please us mightily. And the good things they have to say about CLINICAL MEDICINE "do us proud." Now as to the questions: first, as regards arsenauro: Donovan's solution (liquor arseni et hydrargyri iodidi) is quite a different thing from arsenauro (which is a bromide of gold and arsenic) and certainly can not be substituted for it. The arsenauro is certainly an excellent preparation, uniform in quality, and we would be unwilling to use any N. F. substitute for it.

We can see no reason why Donovan's solution and potassium iodide should not be used in the same mixture. What say our readers?

The Sourwine curet certainly can be used safely by any doctor of good ordinary common sense.

Why not discuss this whole question of "Medical Partnership" through the columns of CLINICAL MEDICINE? It is a very important one and all details, such as this one raised by Dr. Hunt, should be carefully thrashed out.

As to the "Day of the Hustler"—we would answer in the negative; certainly not. We are absolutely opposed to the doctor's advertising. But that doesn't mean that he should hide in a corner.

The dosage idea is good. Who can match it with something else equally practical? Open for discussion.

Any one who knows the "hirsutis" formula will please us by sending it in.—ED.]

URETHRAL CARUNCLES

Enclosed you will find a picture of where one of the "family" lives and does business, and I want to add my small testimony to the beautiful results from the use of hyoscine, morphine and cactin compound.

One case illustrates its wonderful action. Patient, Mrs. M., was to be operated upon for two large urethral caruncles and a small cluster of smaller ones. Patient came to the office at 8:30 a. m. and was given immediately one hyoscine-morphine-cactin tablet hypodermically. In twelve to fifteen minutes everything was ready. The patient now was very calm where she had been nervous, the pulse was steady

She had no nausea at all, no headache, no anything but a sound sleep, and there had been perfect anesthesia from the use of one H-M-C tablet and 1 1-2 drams of chloroform.

She made a perfect recovery and has no fears of an anesthetic now if only one uses "that medicine you put in her arm" before you begin.

Yours for "the best obtainable means to produce a desired therapeutic result."

ROSCOE C. TARBELL,
Groton, N. Y.

[Thank you, Doctor, both for the interesting report of your experience with the anesthetic, and for the picture of your home. Again we want to urge members of the "family" to send in more of these pictures. Let us have a glimpse of your face, your home, a favorite bit of scenery near it—or, better than all, give the

wife and babies a chance to get acquainted with the rest of us. You are proud of them! Send in their photos for publication in these columns. Every man who has a camera (and every doctor should have one) ought to contribute his pictorial "mite" for our entertainment as well as his "mite" of practical experience for our help. The second should be a duty; we hope the first will be a pleasure.—ED.]

A FRIENDLY CRITIC HAS HIS "SAY"

Of all the medical journals that I read CLINICAL MEDICINE is by far the most instructive, although it does often exhibit the very faults that it condemns in other journals and in some of our standard textbooks.

For example, in a recent number one of the editors declared that he threw Flint away and never again opened the pages of the work simply because the author had made the indefinite statement that in a certain disease



Dr. Tarbell's Home and Office

and instead of 120 per minute it was 96, and she felt very drowsy and so sleepy that the little remaining preparation hardly aroused her.

In less than four minutes she was entirely under the anesthetic, chloroform, and where the caruncles were so excruciatingly sensitive that they could not be touched, they were now removed very easily. The base was touched by a little caustic and a small urethral stricture reduced by negative galvanism and the whole area treated with a little positive galvanism to render it less painful.

The patient was removed to another room and slept on as peacefully as a baby. After the lapse of thirty minutes she would from time to time rouse up and answer questions but immediately drop back into this delightful, peaceful sleep.

At 12:30 o'clock she awoke and was feeling very good and urinated without any difficulty and with very little pain.

potassium iodide would "probably" prove beneficial.

In the November CLINIC Dr. Wallace C. Abbott is almost equally indefinite. Thus he says that in the treatment of pneumonia we "employ two great sedatives and two great tonics, the former being aconitine and veratrine, the latter digitalin and strychnine." Under "method of application" he says, "Generally begin by combining the sedative aconitine with the tonic digitalin." But how combine? In what proportion? How administer? In what dosage?

In high fever he adds veratrine, thus making the "defervescent compound," but again he fails to tell us just how to administer the remedy.

Again the doctor says, "Frequently the physician will select and try the combination containing strychnine, the "trinity, at his morning visit." Here, like Flint, Dr. Abbott says, "try." But how try? In what dosage? How frequently given?

The use of the above four remedies Dr. Abbott declares to form the "backbone of the treatment." He however adds that "one that is frequently added is arsenic," admitting that "the reason for this is, however, not well understood." I had been taught to believe that the active-principle method is always dependable, never uncertain, never "not well understood."

When it comes to "indefiniteness," Flint is not alone, by any means. I can pick out hundreds of instances in THE CLINIC where the writer finds so-and-so good for this or that malady without even the slightest hint as to how the remedy should be given. In this brief criticism I have selected Dr. Abbott's article, from the fact that it is one of the leading articles in the November number.

Now a word or two as to the active principles and I am through. The dosage given in "Alkaloidal Digest" and as given in answer to "Queries" is often at a wide variance. Take, for illustration, helonin. The "Digest" says, "1-6 grain three to six times daily." In answer to "Query 5320" the writer says, "In habitual forms I have fallen into the habit of giving helonin, one grain

four times a day, beginning two to four days before the expected period." Here is indeed valuable information, from the very important fact that it is tangible. But why not dispense the helonin in grain-granules instead of 1-6-grain size.

The above is written not in the sense of carping criticism but, as you requested in the December number, to "fill in any gaps which we have overlooked." With best wishes for the continued success both of CLINICAL MEDICINE and of the alkaloidal theory in medication, I am

J. A. COX.

Wheeling, W. Va.

[Our friendly critic's letter is so characteristic in many ways, that we shall take more than ordinary space in discussing it.

The criticism of Flint and other text-books is not because he (or they) are indefinite in describing the treatment of *one* disease; it is because that is the general attitude with which therapy is handled in such works. In most of them there is entire absence of detail in the section devoted to treatment; we are not told why certain remedies are used, how they are to be alternated or combined; how we are to know whether we are obtaining the effects sought or to be desired—in fact, the principles underlying their use. It's this very paucity of information, systemless method of handling, which leads to therapeutic nihilism.

Furthermore, we are trying to impress upon the doctor the importance of getting away from mere slavish dependence upon *books*; to show him the importance of going directly to nature and studying disease itself, that he may have a practical knowledge of sick human beings and of methods of curing them rather than an academic knowledge of disease borrowed from others and passed on from man to man and generation to generation.

To a certain extent Dr. Cox is right in his criticism of our recommendations, but the indefiniteness of which he complains is not our fault. The remedies themselves are definite, the action which they exert is definite, but the reaction of the patients

on whom they are used differs. For this reason, in the discussion of the remedies themselves, we go to the utmost pains to afford all data obtainable, and state the action of the remedies in the most explicit manner. But in the treatment of pneumonia, when we commence to use aconitine, veratrine, digitalin or strychnine arsenate, we use each of these for a specific purpose, and give it until that purpose is accomplished. It may require a few doses and a short time, or many doses and a long time. It may require little doses or large ones.

Knowing exactly the effect we are desirous of obtaining, we give simply till that effect is obtained. For this reason we combine these remedies according to the indications, in such proportions as the symptoms of the case at the time demand. We administer them in large or small doses, at long or short intervals, according to the nature of the case.

The trinity and defervescent compound formulas have been given in these pages hundreds if not thousands of times, and are so very familiar to our readers that we do not always repeat them.

It is necessary that these combinations should be "tried," for this reason: Sometimes we find a patient whose symptoms are those of asthenic fever, and we give the defervescent compound the preference. But after a few doses it becomes evident that the strength is more apparent than real, and asthenic symptoms develop, upon which we switch around at once to the trinity combination of Burggraeve. It is not so much the effect of the medicine we are testing as it is the reaction of the patient.

When we spoke of the action of arsenic being not well understood, we meant by the profession at large; and we went on, in the article criticized, to explain what this action was, namely, that of inducing fatty degeneration. This action, exerted upon the newly formed products of inflammatory disease, hastens materially the resolution and absorption of these products, leaving less work for the weakened system to perform during convalescence. This we be-

lieve is the reason why arsenic has proved of value, given even during acute fevers; that is, in proper doses.

In the ordinary practice of medicine with the galenics we have two elements of uncertainty. One of these is as to the nature and degree of action to be exerted by the drug. This is eliminated by the use of the active principles. But there remains a second uncertainty, and that is, as to the exact condition of the patient. This we seek to clear up as far as possible by our diagnosis. The reaction of the patient to the medicine is always a matter of experiment.

This reaction is uniform enough to enable us to predicate to a certain point what results will follow the exhibition of a dose of the medicine. But naturally there is a variability here, and this point is excellently illustrated by our friend's quotation as regards helonin. The specific function of this remedy is to relieve or prevent the pains of dysmenorrhea. When we wish to relieve these pains, we give helonin, as the "Digest" says, 1-6 grain three to six times daily, increasing the frequency of the doses until we get the desired effect. But when we wish to prevent the pains, it is obvious that we cannot determine the dosage in this manner. We are compelled here to use an average dose, hence, in answer to Query 5320, we suggested that the inquirer give one grain four times a day as the average dose. After trying it he might find that two or three times this dose is needed, or on the other hand, that a smaller dose would fulfil his needs.

If this matter is not made perfectly plain, we would be very glad to have further questions on it submitted by anyone who feels an interest in it. The whole matter is an excellent illustration of the difficulty of departing from the old idea of set, uniform dosage of remedies, and adopting that of dosage to effect. This is the greatest stumbling block in the application of scientific drug therapeutics. It is one of the things the physician has to unlearn, and it is difficult for every one of us. The writer is not excepting himself, for he stumbled over this

block so long and so persistently before the truth dawned upon him, that he is certainly not in a position to find fault with his colleagues for doing this in a lesser degree.
—ED.]

A FRIEND INDEED

DEAR DOCTOR ABBOTT:

I, as every doctor who is a member of the A. M. A., have read the contemptible and cowardly attack upon you, and have waited to see what you might have to say in reply thereto in *THE AMERICAN JOURNAL OF CLINICAL MEDICINE*, and finding nothing, thought I would write you.

Now, Doctor, I realize that you are in deep trouble. I tender you my sincere sympathy. I believe you are honest and square. I believe also that your extreme optimism has caused you to venture a little beyond your depth, but I believe, too, that your object was not to benefit yourself alone, but you have sought to be helpful to all your patrons and associates and to the medical profession generally.

This being true, I thought if you would make a frank, full, true and honest statement of your whole liabilities and assets and lay the matter before your subscribers, the CLINIC family especially, as one member of a family might lay bare his troubles before his whole family, I believe the "family" would rally to your assistance, if each member was assured in some way that the others would do the same.

I am ready to do my part to help to place you squarely upon your feet again, and I believe the rest of the family will do theirs. Three years' prepayment on subscription, or some other plan might be submitted; stock in a reorganization of your company, etc.

Fraternally yours, E. B.
—, Iowa.

[Isn't that fine? How many men or firms have friends like this and lots of them—friends who will rally about them in time of trouble and offer to put their shoulders under the burden which they believe almost too hard to bear?]

We thank this good friend (whose name we do not print because we do not wish to submit him to annoyance by the "enemy") from the bottom of our hearts. We have no doubt that there are thousands of others who would rally to our help as he suggests. While we do feel the bite of hard times and the reaction from these venomous attacks, we are still carrying our burden successfully, alone, and we can continue to do so if our friends will stand with us, but how much easier it would be along the lines indicated—lines which appeal to us very strongly, and which we have been seriously considering for some time. In fact, it was with a view to ultimate reorganization on a broad corporate basis, a basis commensurate with the unstoppable evolution of this only true therapeutic idea that our few cooperative bonds were floated as a test of the situation.

It is true we need money and need it right now—very much. We are just moving into our new building. That means large expenditures, calling for spot cash. Final building bills are yet to be paid. Thus far we have done this all alone, without even the usual building mortgage. But while broad of back and resourceful within ourselves we are carrying about all we can, and besides, the added difficulties make every dollar look "as big as a cartwheel." You can help us, far more than we can tell you here, and as a first move, by renewing your subscription promptly, paying up one year or three in advance (for \$5.00 we'll send you *CLINICAL MEDICINE* for three years), subscribing for your neighbors, or suggesting that they do for themselves, pushing with the alkaloids in every way you consistently can. Or, if you are not a subscriber, as every red-blood man must be—well, shake!—be with us! And all such practical help *right now*, will be appreciated, Brethren, as never before.

But while our hearts go out in thankfulness for such friendship we do not want anyone to get a wrong impression or be at all alarmed concerning our financial standing. It was undoubtedly to foster this spirit of fear that the attacks upon us have been made—to shake our standing if possi-

ble. Never fear! A structure built on a really "square deal" that deserves confidence and gets it, as we do, while it may be shaken can never be overthrown. There are too many strong hands and warm hearts behind it—too much of the real in life and love. And right here we want to say, once more, that we have nearly ready a reply to this attack which will interest you mightily. Possess your souls in patience! Don't misinterpret our silence. It is not a sign of weakness, rather one of strength.—W. C. ABBOTT.]

A REMARKABLE MONSTER

I was called to consult with Dr. John W Hyre, April 3, 1907. The patient, Mrs. B., was located in a lumber camp, and this was her first confinement. Labor commenced on Sunday. I was called Tuesday evening at about 6:00 p. m. On examining her I found a foot presenting, the pains were very weak and the parts very dry and hot. The other doctor had sent for ether, but as it had to come some distance, it would be late, so we went to work and at half past ten delivered a girl of eleven pounds. The child had no head above the upper lip, that is, no bones; but the placenta formed the top of head. It also had cleft lip and palate. It was living when born and survived twenty-four hours. What was very curious to me was that placenta was attached all around the lower part of the head and neck, the brain being located in the placenta. It also had three well-developed teeth, the rest of the child being normal. I have never seen another case like it, nor read of one.

B. F. MCINTIRE.

Lowland, W. Va.

—:o:—

We note with interest your report of the birth of a monster. We should appreciate a detailed report, but are you not in error as to the placenta? How could the placenta be attached to the skull of the child. Did you not deliver the placenta subsequent to the birth of child. Fleshy growths taking the place of the bony part of the skull are not unknown. Where did the cord end on

the maternal side? Did it run from the umbilicus of the fetus to the margin of the fleshy growth attached to the face and was this in turn adherent to the wall of the uterus. The delivery you speak of is unquestionably a very interesting one and we only regret that you did not take a photograph of the fetus or even preserve the fetus in alcohol. Had you done so it would have been of value to the profession.—ED.

THE POST-GRADUATE COURSE HELPS

Permit me at this moment to show my appreciation and express my gratitude for the help which the postgraduate course in therapeutics has already done for me. It is just fine. Each month I watch anxiously for your journal, and although very busy, I can always squeeze out a half hour each day to spend reading its pages and gathering fresh food from the field. I am indeed very thankful to Dr. Abbott and his co-workers for this rich and golden opportunity which they have placed before me.

I beg herewith to state that I have had quite a number of pneumonia cases to treat, and have treated them all alkaloidally with medicines dispensed in my own office. In addition to these I used the flaxseed-meal poultices, as per lesson and method given in the February lesson, with great success. With the alkaloids I get quicker and surer results, and I use them with fullest confidence as to the results expected.

A. W. THOMAS.

Trenton, Tenn.

APOMORPHINE: HOW TO USE IT

Very few physicians have learned to use apomorphine except as a hypodermic emetic. Few hypodermic outfits are without a bottle of the one-tenth grain tablets. This is as it should be, for apomorphine is an invaluable remedy in many emergencies; but it has other uses almost as valuable, it being an excellent expectorant, an effective hypnotic, an admirable gastric sedative and anti-spasmodic, and in conjunction with aconitine

and strychnine, our best-known remedy in capillary bronchitis.

The action of apomorphine hypodermically and by the mouth appears to be radically different, but this difference is simply due to the rate of absorption. When given hypodermically the whole dose enters the circulation in a few seconds; given by the stomach the dose is absorbed more slowly and the effect produced is similar to that of a small dose, 1-30 grain or less, hypodermically. Most patients require one grain of apomorphine by the mouth to produce an emetic effect, while only one-twentieth of this amount is required, in most cases, if it is given hypodermically. This will explain why one-tenth of a grain of apomorphine may be given half-hourly by the mouth for a number of doses without producing an emetic effect. When it is used hypodermically in doses of 1-10 to 1-20 grain, it seldom fails to produce prompt emesis; but 1-30 grain hypodermically rarely acts as an emetic; but *this dose does act as a prompt and well-nigh infallible hypnotic.*

In rare instances 1-30 grain may produce emesis, but the hypnotic effect promptly follows the emptying of the stomach. An occasional patient will tolerate a dose as large as 1-20 grain without the production of emesis. The "rule" which should be observed is to give just enough to produce the complete relaxation which is followed by sound sleep, but not enough to produce nausea or vomiting. One-thirtieth of a grain hypodermically meets the indications in about ninety-nine cases out of one hundred of adults.

The production of sleep by apomorphine is due to its action on the central nervous system, whereby complete relaxation is produced, and sound natural sleep must of necessity follow. Apomorphine then does not produce sleep as other hypnotics do, but it does produce such a condition of the physical organism that the patient cannot help sinking into natural sleep. Its indications range all the way from mild insomnia to furious delirium, whatever may be the cause. If the patient is suffering from delirium tremens it is often good practice to empty

the stomach by giving 1-20 grain of apomorphine and at the same time tone up the circulation (which is always disturbed in such cases) by a hypodermic injection of 20 minimis of ergot, or one grain of ergotin. Doctors who have not tried this combination of apomorphine and ergot in delirium tremens will be astonished and much gratified by the results.

In all these cases sound sleep is produced in ten to twenty-five minutes, and the patient will rarely fail to sleep less than eight hours under favorable environment. The sleep induced by this method is refreshing and restful; it is not followed by any of the unpleasant symptoms that usually follow sleep induced by drugs. It is well to remember that while apomorphine is a cardiac stimulant, the extreme relaxation produced by it, plus the effects of a prolonged debauch, may render it a dangerous drug in delirium tremens unless its effect is guarded by the ergotin as above recommended. With this exception apomorphine is a safe as well as certain hypnotic; it produces its results in a few minutes and almost never fails to turn the wildest delirium into sound, refreshing sleep.

Its emetic action when the dose is increased precludes all possibility of its producing a habit, the great danger from many of our sedatives and hypnotics.

As already stated, when given by the mouth, very large doses of apomorphine are required to produce emesis, most patients requiring one grain in hot solution, and even this sometimes fails to produce emesis, but it may produce complete relaxation and profound sleep instead.

As an expectorant it will probably loosen the ordinary "tight cough" quicker than any other known remedy; when there is dryness and deficient secretion, tight cough and tough sputum two to four granules, gr. 1-67, should be given every half hour until the desired effect is produced. Used alone, or in connection with emetine, lobelin or codeine, it has a very wide field of usefulness in bronchial troubles.

Brunner advises morphine and apomorphine given together to increase mucous se-

cretion and lessen irritability of the respiratory center, especially when there is dyspnea, constant cough and tough mucus.

In acute laryngitis and capillary bronchitis it has proved of great value, from the fact that it seems to be a mucus-attenuator, as well as a stimulator of the membrane. The dose should be small and frequently repeated, and it should always be given in solution.

In capillary bronchitis the tendency to carbonic-acid poisoning and subsequent paralysis is well known and dreaded. By the early use of apomorphine combined with strychnine, we produce a thinning of the mucus in the bronchioles, which are liable to become clogged up with a tenacious exudate, thus anticipating a condition of occlusion in the alveoli, which is the alarming feature of this disease. Meantime the strychnine supports the nerve-centers against the collapse of the patient, and greatly assists in the removal, by expectoration, of the accumulated exudate. If these two remedies are given early in the disease and pushed to effect, few cases of capillary bronchitis will ever terminate fatally. If there is fever present, the addition of aconitine, gr. 1-134, to each dose is indicated. Other symptoms, such as cough, may be treated with codeine, and the spasmodytic type with appropriate doses of hyoscyamine.

As an antinauseant or gastric sedative, apomorphine is proving a surprise to many physicians. When given by the mouth in doses just short of the production of nausea, its sedative effect is marked and certain, relieving conditions very similar to those produced by fairly large hypodermic doses.

As an antispasmodic the action of apomorphine when given hypodermically has been fully described under its use as an hypnotic. Shoemaker mentions the use of apomorphine as a remedy for spasmodytic cough, asthma, convulsions, strychnine-poisoning, maniacal delirium and to relax rigidity of the os uteri. Another authority reports a case of strychnine-poisoning which was controlled by apomorphine, the patient recovering. The writer would suggest its employment in tetanus, in which it should be pushed to effect.

In that form of hysteria whose dominant symptoms consist in clenching the fists, kicking the feet about, staring eyes and closed lips, but without any apparent reason—and whose fundamental causation might be aptly, though I confess not delicately, expressed as "cussedness"—a hypodermic of apomorphine will work a very salutary change in a speedy and benign manner. In order that the doctor may protect himself against unjust censure, it is well to state to the patient or to the friends that if the hypodermic injection is not given you are afraid the patient will throw up, and that if the patient throws up without the hypodermic injection, dangerous consequences may result, but that if emesis takes place after the hypodermic injection is given no harm can possibly result to the patient. They will thank you for your precautions, and you may go home rejoicing in work well done.

Solutions of apomorphine on standing for a short time gradually turn gray, then green from oxidation; and although some writers on *materia medica* declare that this color-change produces in some way a change in the character of the drug that makes it dangerous to use, the writer has used it in the above way time and again without being able to notice any difference in the action of the apomorphine, and certainly no deleterious action. This change in the color can be avoided by the addition of a few drops of hydrochloric acid or vingear; but if neither of these are used, the attendant should be warned that the change will take place but that it does not in any way affect the action of the medicine. Uncoated tablets of apomorphine are liable to become greenish in color. Some writers have pronounced such tablets inert. Do not be deceived by the statement. Such change in color does not change their strength one iota.

The dose of apomorphine as an expectorant is two to four 1-67 grain granules every half hour or hour. For a child of six years dissolve twenty-four granules in three ounces (twenty-four teaspoonfuls) of water; for a child of two years, twenty granules in three ounces of water; for a child of one year, fifteen granules in three ounces of water; an

infant may receive half a teaspoonful of the solution prepared for a child one year old. In any case, if improvement does not follow within three or four hours, the dose should be increased. The remedy should be given with the care required when any depressing remedy is administered. The antidote in case of poisoning is strychnine or caffeine hypodermically, with hot coffee internally and the application of external heat, or all together if the case is urgent.

The physiological antidote of apomorphine is chloral and chloroform. It is incompatible chemically with alkalies, potassium iodide and iron chloride.

Every general practitioner will find many and varied uses for apomorphine. A remedy that meets so many important indications with certainty and precision is too valuable for any physician to neglect.

E. G. PAXTON.

Chicago, Ill.

THE DOCTOR AS A PUBLIC MAN

The doctor *is* a public man. No one can be a doctor and not be a public man, in the true sense of that term. He is ever before the people, by night and by day, in sunshine and in rain. Every schoolboy will exclaim, "There comes the Doctor!" He is known of all men. His opinion is asked in many things besides that which is medical. He is supposed not only to know everything of anything, but laymen are so severe in their demands that they expect him to know something of everything. He is for the people, by the people and of the people. He seeks to supply their wants. It is the people he wants. It is the people he must have, and it is the people he gets. He must be wise as a serpent and harmless as a dove.

It is true, the doctor's heart must be centered upon medicine. It must be his chief aim in life, yet he must in a sense become a part and parcel of a wonderful combination. He must in a word become a lawyer. He must at least understand legal protection in just measure. He must be a botanist, and must add the perfumed

words of that sweet language to his vocabulary. He must be a farmer; he must know how to grow other crops besides those of transplanted germs. He must be a teacher. The doctor has much to do beside giving medicine. He must teach and promulgate the great laws of health. These laws obeyed will unquestionably prove a greater blessing to suffering humanity than *materia medica*. And surely the real, true doctor will have theology enough to give comfort and hope to the dying. He will be poet enough to sing forth the tender sentiments and ennobling thoughts which stir the human heart. Surely he believes, with the physician-poet Keats, that "a thing of beauty is a joy forever."

What is a public man? It is one whose life finds a response in the hearts of the people. The doctor must live in the hearts of the people. Daniel Webster was a public man, and still lives in the hearts of the people. Jenner was a doctor, yet he was a public man and he still lives; smallpox died, but Jenner lived. Harvey was a doctor, yet is he not also a public man? Hippocrates, "the father of medicine," is a public man—he still lives.

There is always a public place, a public trust, for the doctor. He may even be called to preside over the destinies of the people from a civil point of view. The doctor is a public man; he does not step one round higher when he is holding a public office of trust—elected by the people—than when he is administering medicine at the bedside of his fellow-man. He must be a public man and he must be loved by the people. The old school reader used to quote:

"I do not love thee, Doctor Fell,
The reason why I cannot tell."

The little girl who said this evidently did not like the doctor. This is all wrong—it will never do! She should have said:

"Oh, how I love thee, Doctor Fell,
Because you make me sound and well."

The doctor loves the little girls as well as the big ones—his heart yearns for them all.

In all communities, and especially in the minor towns and villages, the doctor belongs

to the circle of the educated. He is one of that small circle. His various studies, especially those of a scientific nature, make him familiar with public questions and the problems of the day. He is consulted on the great question of sanitation, water-supply, and the mode of subduing epidemics, how to preserve public health, the school-life problem, the care of the insane, the poor and the feeble-minded.

No one should be more of a leader in all philanthropic, patriotic enterprises than the doctor. The doctor must be a brave public man. When disease and pestilence and death come—where is the doctor's place? Shall he flee with the people? Shall he run from danger? No, he stands like a stone wall, he braves the mouth of the cannon, he will be found in the hospitals, in the miserable tenements, cheerfully tending the sick and risking even the examination of dead bodies that the disease may be found out! This is public life—it is public virtue.

During a great plague in Marseilles the doctors decided that nothing could be done to stay the plague and save the people unless one of the victims of the disease could be dissected and the nature of the disease learned. But who would do this? Doctor Guyon arose and said he would do it. He entered the hospital, made the dissection and examination, wrote out the results, and in a short time he himself died. But the physicians learned how to treat the disease, and the plague was stayed. Was he not a public man? A public man is one who, like Dr. Guyon, *saves* the public. He is one who, like Dr. Rush, fought the yellow-fever in 1797, one like Dr. Gross who fought the cholera in 1832, or one like Koch in the bubonic plague of recent times.

The doctor is ever before the public. He has to do with man's entrance and exit—the alpha and omega of his existence. Birth and death, life and health, germ and disease, joy and sorrow, youth and age—with all the phases of human life, the doctor figures before the public. This is a greater public trust, a higher public office than being king or president.

And yet, when there is a call for what the doctor can do or give for the public good, along the lines of statesmanship, he need not falter. In the South American States the great statesmen are all doctors, as a rule. It should be so here in the United States. No better men could be found for gubernatorial office, legislature or senate in Iowa than from among the doctors' ranks. There is no such noble band of men as in our profession today. No other class of men have done so much for humanity—so much for public good!



DR. E. A. NASH

"Is there no balm in Gilead, is there no physician there?" This question was asked in ancient times, showing that even in those remote ages the doctor was a public man, the greatest man among ten thousand. It is so today! Who is it the public seeks night and day, here in the United States, from the Bay of Fundy to the Golden Gate? It is the doctor. Who is more of a public man than the doctor? The doctor deals with the most important things known to the human race.

Life is all there is in the world and in the universe. What is life? You know the various definitions given, but let me say, life is that which the doctor seeks to save and perpetuate. So then, what can be greater or nobler or more public than the profession of medicine. Every doctor holds

a public trust. The fate of kings and queens are entrusted to him. The public hangs breathless on the doctor's decision. He is a sort of nexus between all classes and conditions of men the world over.

Rejoice then, all you who have aspired to claim that great name, Doctor. It is above all other names. It is the brightest star in the public sky. It is the survival of the fittest. That name means something. That name means a public man. It means a good man.

And so, the times approaching fast indeed,
Our country calls, and it is now in need
Of men with royal hearts and loyal pride—
Grand men in whom the people can confide,
Men who are for Right with might and main.
Who will not sell their work for paltry gain,
Who will not aid greedy millionaire
To bring his fellow man into despair
And make the common public slaves of toil,
Whose daily sweat is mingled with the soil!
My friends, if you should ever be thus great,
And join the ranks, to wield affairs of state,
Become in truth a noble man of fame,
A man of principle as well as name,
On whom the waiting public can depend.
How proud I'll be to own you as a friend!
But on the other hand, if you connive
Like politician, just to keep alive,
Become a knave to please the socalled great,
It would call forth my everlasting hate!
The meanest act committed by vile men
Is to betray the friends who trusted them.
Oh, let your aims in life be nobler far
Than worthless common politicians are!

* * *

Ah, do not envy "Public Men,"
Nor seek to gaze upon
The statemen's gifted power—
Life and its work will soon be gone,
And doctors have a higher plane,
A brighter crown to don!
The doctor is a public man
Wherever you may go,
He sails amid the sea of life,
And saves the high and low.
The doctor is a public man,
The Nations call him so.

E. A. NASH.

Troy Mills, Ia.

THE TREATMENT OF ULCERS

I treat various ulcers very differently from the ways given in CLINICAL MEDICINE and, the results being satisfactory, I will tell you how it is done.

Wash the affected parts well every day with warm (nearly hot) water and tar soap; then bathe with peroxide of hydrogen or

hydrozone. If the limb is badly swollen a very strong lobelia wash is beneficial; this is made by steeping lobelia in water.

Then put on a poultice made of sweet cream and wheat flour. Put the cream in a saucer, add flour to make a thin batter, and place on top of stove and cook until it will all roll around without sticking. When cooled right bind it on. This is soothing, cleansing and healing. After a time the ulcer begins to "run off," the stagnated blood grows lighter-colored, and it gets healthy and then heals.

After it is healthy it can be healed very quickly by the applied blood-dressing.

DAVID B. WOODBURY.

South Paris, Me.

[We note your method of treating ulcers. If you have not already used carbenzol soap try it in place of tar soap and watch results. We thoroughly approve of the use of prepared bovine blood, and as you know, recommend it frequently in the treatment of leg-ulcers. You will find sanguiferrin extremely efficacious; apply on plain or medicated gauze.—ED.]

"DOPE FOR QUACKERY"

I would like to have a word to say about an editorial in the March number of CLINICAL MEDICINE, under the caption, "Restricted Practice," and also to direct the attention of all your readers to the subject dealt with, and ask their opinion thereon.

I for one think it would be a good thing, financially and educationally, if some means could be devised by physicians to prevent the profession generally from prescribing "dope for quackery." By dope for quackery I mean any drug or compound labeled with or wrapped in literature giving the therapeutic uses and virtues of said medicine, no matter by whom manufactured.

In the past we have been used by the manufacturers as a medium through which to advertise their nostrums to the public, who utilize the information they gain from the wrappers or labels of original packages or samples to prescribe thereafter for them-

selves and their neighbors. Patent and proprietary compounds are superfluous and have come to occupy a large field through our foolishness in putting them before the public, to our own undoing.

I will not deal with all the points dealt with in the article, but I will say that the man who must depend upon the manufacturer for a knowledge of pathology and therapeutics is a poor physician indeed, and will remain so if not compelled to go to his library for information.

E. J. GILLERAN.

La Junta, Colo.

[Your definition of "dope for quackery" does not apply to the phrase as usually understood. Should it be adopted, it would cut out a large majority of the articles which have been approved by the Council on Pharmacy and Chemistry. Why don't you extend your definition a little further and include all drugs whose supply to the medical profession and the sick is restricted by monopoly?

As usually understood the term "dope for quackery" is applied to the practice, of manufacturing houses, of supplying to advertising quacks and patent-medicine makers the means of carrying on their business. These men buy their tablets, etc., by the million, while the regular practitioner buys his by the hundred or the thousand; naturally the quack gets better prices and better treatment, since he is individually a much larger customer, although in the aggregate the regular practitioners' orders must largely exceed those of the quacks. You are trying to sidetrack this matter and substitute an altogether different one. Suppose you stick to the more important one until it has been remedied, then if you wish to advocate a change in the practice of supplying remedies to the profession, which has prevailed up to the present time, and still prevails with every drug house in existence, it will be time enough to accomplish this change at that time.

It might be added that the doctor who is unwilling to learn helpful things from the manufacturer, or from any other source, is

making a serious mistake. (We might put it stronger!) Pick up every practical idea you can that will help you to cure your cases and in a manly way show your gratitude to the giver. None of us "knows it all."

Like you we are opposed to underhanded methods of reaching the laity through the doctor. But the doctor really demands a certain amount of information on the package-labels. This information is valuable, put on generally to help him, not with any intention of encouraging self-medication by the laity. The problem is to give the maximum of aid to the doctor, with as little as possible that can be used to his detriment. Where shall the line be drawn? There is a difference, also, between selling direct to the doctor, catering to his trade only, or selling through the druggist, for most of the self-medication is the result of dispensing unbroken packages over the counter. Just how much *shall* be put on the labels? What say our readers?

Dr. Gilleran's classification of "patent and proprietary compounds" together and calling them all "superfluous" approaches perilously near to asininity. (Pray pardon the word!) Did you ever stop to think, Doctor, that a very large proportion of U. S. P. preparations and probably three-fourths of those in the National Formulary are proprietaries masquerading under other names. Are these all superfluous? Take a good "think."—ED.]

A CURE FOR DR. CUPP'S CASE

You can tell Dr. Millard F. Cupp, through CLINICAL MEDICINE if you like, that a strong saturated solution of sodium salicylate, borax, fld. ext. hydrastis and water, used as a wash twice a day and followed each time with an ointment composed of acetanilid and white petrolatum applied freely will promptly cure all his ivy poisoning cases, whether they be methodist, baptist, catholic, infidels, black or white, or whether their ancestors had consumption, rheumatism, measles, smallpox or dyspepsia; or whether they themselves have previously been good,

bad or indifferent; or whether their diet has been fish, fowl, vegetable or liquid.

M. E. JOHNSON.

Pittsburg, Kans.

AMERICAN MEDICAL EDITORS'
ASSOCIATION

The annual meeting of this association will be held at the Auditorium Hotel, Chicago, on May 30 and June 1. A very interesting program has been prepared, and it is expected that many connected in an editorial way with the medical journals of this country will be present. In addition to the enjoyment and profit to be derived from attendance upon this meeting and the discussion of many topics of most vital interest to this branch of journalism, the annual banquet to be held the night of Monday, June 1, will be (as always) a very enjoyable feature.

Since this meeting is to be held in Chicago, we have a special desire to meet all our brethren of the craft, and we hope that everyone who comes to the city will plan to call at the home of CLINICAL MEDICINE and make it temporarily his own. We hereby extend the "glad hand" to every visiting brother. Come by all means if you can.

NOSOKOMEION

A colleague honored me by requesting my opinion as to which of the two names would be preferable to be given to a private hospital, "sanatorium" or "sanitarium," the hospital in question not claiming to have any special climatic advantages, nor of any springs nearby of certain therapeutic qualities—it being simply a plain private institution in the residence district of a large city. Presuming that my answer may be of general interest, I wish to present it for publication.

Neither of the two words in question is classical Latin, sanatorium not existing at all in that language, while *sanitarius*, *sanitaria*, *sanitarium*, has the adjectival meaning of "sanitary." There exists a verb *sanare*, to heal, and sanatorium can be formed to

mean a tool or a place for healing, while *sanitarium* only means a "sanitary" or hygienic tool food or place.

In order to do justice to the colleague who made the inquiry, I wrote to my friend, Mr. Arcadius Avellanus, who is, I think, the greatest Latinist in the land, to give me some historical information referring to the two words. He answered: "The nearest Roman institution in this direction was the *medicina*, or medical shop, the office of a physician, like *tonstrina*, *pistrina*, etc.—adjectives, *taberna* (shop) being omitted. The Roman physicians used to sell their drugs in these places and took care of the patients who would resort to them for help or advice."

Mr. Avellanus confirmed my opinion that "sanitarium" is more suggestive of passive healing (*sanitas*, *sanitatis*, health), taking care of a person and aiding nature in its work; while "sanatorium" implies aggressiveness, as though defying nature and healing by force or special appliances.

Preferable, I think, to either sanatorium or sanitarium is the Greek word *nosokomeion*, for it is classical, and concerning its correctness and distinctness of expression there exists not the faintest shadow of a doubt. If we compare this Greek word with the new-formations, "hospital," "sanatorium," "sanitarium," we shall find it preferable to all. Hospital is not a Latin word. The nearest to it would be *hospicium*, but this has many meanings, none of which implying what we understand by hospital. It is true, everybody knows exactly what is meant by the word hospital, but we shall see why nosokomeion deserves to be so introduced as the more elegant and the more useful.

Nosos, the sickness.

Komeo, to take care of.

Nosokomeo, to take care of sick.

Nosokomeion, an institution for the care of sick.

Nosokomos, the male nurse, and the female nurse.

Nosokomia, the care given to the sick.

Perhaps our refined trained nurses will thank me for suggesting the word "*nosokomos*," since by applying it to them there is no danger of confounding it with infants' or

children's nurse, nor with the ridiculous word, wet-nurse.

I may be permitted to dwell on another beauty of the Greek language by referring to combinations with the word *komeo*:

Brephos, a newborn child.

Brephokomeo, taking care of infants.

Brephokomeion, an infant asylum.

Phrenokomeion, an insane asylum.

Gerontokomeion, asylum for old-aged.

Of all the things which are beautiful in this world, nothing excels the Greek language, not only the classical Greek, which is only a small part of the whole, but of Greek spoken and written in Greece at this present time.

A. ROSE.

New York City.

ARTIFICIAL INFANT FEEDING

The subject of infant feeding is a most interesting and important one, viewed from the standpoint of either morbidity or mortality. The mortality of infancy is notoriously high, due in some instances to neglect and bad environment, but mostly to bad food and worse methods of feeding. The morbidity of this period, due almost entirely to errors of diet, is witnessed by the many cases of malnutrition, marasmus, rickets, scurvy, and the catarrhal affections of the intestinal and respiratory tracts which carry off so many of these poor unfortunates during the much-dreaded second summer. This condition of affairs is all the more lamentable because it is for the most part preventable by providing good food and proper methods of feeding.

Healthy breast-milk, from nature's fountain, the natural and only ideal food for babies, may be taken as the type of infant's food, and the nearer an artificial substance can be made to approach it in chemical composition and physical properties, the more perfect it is. Normal breast-milk is a persistently alkaline fluid, having a somewhat unusually disagreeable and very sweetish taste. It is bluish-white in color, and thin and watery in consistence, and according to Leeds, is composed of thirteen parts of solids and eighty-seven parts of water (see analysis in textbooks).

Not only does milk of different mothers vary very much, but also the milk of the same mother has been shown to vary several times during the course of a single day. This fact is the most striking feature of Leeds' investigations which show that the most changeable constituents are albuminoids, varying from a maximum of 4.86 percent to a minimum of 0.85 percent. The next are the fats and salts, the maximum being about three times the minimum; and the least the sugar. The latter, in fact, varies but little from a standard of 7 percent. The function of the albuminoids is nutritive; that of milk-sugar calorigenic.

We must study each of these constituents in order to determine its importance in the combination. The fats encourage the growth of the bones, nerves, furnish animal heat, and also are stored up in the body. The carbohydrates have two important functions—the production of the animal heat and of fat. The proteids stimulate the development of the tissues generally, the cells of the body, the blood, muscles and organs of the body. The function of the salts is to stimulate the growth of the bone.

In seeking a substitute for human milk, one naturally selects the milk of the lower animals, cow's milk being preferable, owing to its cheapness and the fact that it is easily obtained. Cow's milk is richer looking, that is, whiter and more opaque, than human milk, and is slightly acid in reaction. Comparing the analysis of human milk with that of cow's milk we readily observe that the two differ in specific gravity and reaction, and that cow's milk contains more nitrogenous material but less fat and much less sugar than woman's milk. Undue attention has been given to the organic constituents of milk and too little to the mineral contents.

Cow's milk contains twice as much phosphorus as woman's milk. When cow's milk is substituted for woman's milk, sodium chloride should be added. The salts of calcium are present in greater proportion in cow's milk, but this difference can safely be neglected, as nature permits of a more generous attitude in the feeding of infants than do laboratory tyrants.

While the sugar of human and of cow's milk is chemically identical and the fats are quite similar, there are important differences in the quality as well as the quantity of the nitrogenous material. This in both fluids is complex, being made up of casein, lactalbumin and peptones. Casein is an acid substance and is present in combination with an alkali, chiefly as potassium caseinate. The casein of cow's milk is readily precipitated by dilute acid and is thrown down in large firm masses; that of human milk requires more acid and is precipitated in fine, soft particles, which is dissolved by an excess of acid.

The relative proportions of casein and lactalbumin have been determined with sufficient accuracy to point out the most important of all the differences between the two secretions, which is, that the fraction of the total albuminoids in cow's milk which is coagulable by acids (casein) is far greater (perhaps four times) than the coagulable part (lactalbumin). In woman's milk, on the contrary, the reverse is true, and the noncoagulable part much exceeds (perhaps by more than twice) the coagulable portion. Taking weight for weight of each secretion, the coagulum of human milk is only one-fifth that of cow's milk.

This difference is readily determined by adding rennet to the two fluids. In cow's milk the casein is coagulated into large, firm masses, while with human milk a light, loose curd is formed. In the stomach the acid gastric juice has the same effect, producing, in the first instance, a coagulum most difficult to digest. In the other, one of vastly less bulk and readily attacked and easily broken down by the gastrointestinal solvents.

To overcome these objections, a certain amount of cereals can be added to the cow's milk. This practice is in accord with the acknowledged teachings of such pediatricians as Drs. Jacobi, Chapin, Keller and Smith. The old contention that the infant had no diastase for the conversion of starch into sugar is no longer considered to be true. Heubner, of Berlin, has demonstrated that diastase can be found in the parotid gland of an infant 2 months old, 2 weeks, and 3

hours old. An infusion of parotid gland from the beginning of life converts starch into sugar.

An ideal modification of cow's milk as an artificial infant's food is a very knotty problem, but the author believes a carefully selected milk from pasture-fed cows to which has been added cereals and maltose will produce an artificial food which will meet the demands in the greatest number of cases.

Where the density of the coagulum is dependent upon the proportion of caseinogen by reducing the percentage of the latter present, the coagulum will immediately become soft; under such conditions the author has found that the curd can be easily and readily split up by the addition of such cereals as are found in many of the artificial foods, notably in Nestle's food. This food is not a predigested food, but is one which, when prepared for use, immediately exerts upon itself that power of digestion which has been carefully preserved in its constituents. The malt, rich in diastase, acting in conjunction with the pancreatic secretions, digests the fats and albuminoids of the milk, converting the starch to form curds, thus rendering the food of infinite value to the infant, supplying the necessary nutrition and material to strengthen and build up the human economy, at the same time relieving the stomach of the infant from the expenditure of energy necessary to the digestion of ordinary food.

Careful analyses made by the leading chemists of England, Germany and America have proved that Nestle's food in its composition shows a very close resemblance to mother's milk, and that it contains all the elements of a complete nutrition, in a most assimilable form. This food is manufactured from choice milk from healthy pasture-fed cows. The milk is concentrated *in vacuo*, at low temperature, so as to preserve its original valuable qualities unchanged. To this concentrated milk is added sugar and the soluble elements of wheat flour in such proportions as most nearly corresponds to the amount of fat, sugar, proteids and the salts of mother's milk. The wheat flour is previously submitted to a special process of

baking, by which the insoluble portions are modified and prepared for easy assimilation. The product obtained in this way acts on the casein and prevents the milk from curdling in large lumps.

The directions I usually give for a child of twelve months old is the following: Mix thoroughly Nestle's food, four level tablespoonfuls; water, 20 tablespoonfuls, and a pinch of common table-salt. The food is placed in a sauce-pan and just enough water added to make a smooth thin paste, then the balance of the water is added and brought to a boil, the food being stirred constantly to avoid lumps. After boiling three minutes a milky foam appears on the top. When cooled it is ready for the child and just enough for one feeding.

Case 1. The little two-year-old son of Mrs. B. was brought to me with the following history: At birth he was a fine baby—eight-pounder—and grew nicely for the first few weeks, when the mother's milk failed to sustain the child. It lost its appetite and became emaciated. The attending physician ordered the baby weaned and had it placed on condensed milk. The digestive organs being weak, the milk was not digested; every stool contained lumps of casein; the child was fretful, and at the age of one year weighed only twenty pounds; its muscles were soft and flabby, and the joints large and prominent. From this time on until the child was brought to me it was fed on all manner of artificial foods, including cow's milk in various dilutions, boiled and raw. At the age of two years, when I first saw the child, he was approaching a rachitic state, the stomach was irritable, vomiting nearly everything taken, enteritis was present, the child passing large quantities of lumpy casein. The child had never walked nor talked, and had only the central incisor teeth, being a helpless living skeleton. Some few days before seeing this case I had received a couple of sample packages of Nestle's food, and thinking that the case was hopeless, and as every other kind of artificial food had been tried, in my exasperation I decided to try this food and gave the mother full directions, beginning with two level tablespoonfuls of the

food to 12 tablespoonfuls of water, to be prepared as above directed. The mother was ordered to feed this amount to the child every three hours during the day and twice during the night. After a few weeks the amount of the food was increased until he was taking the amount usually taken by a child his age. I, of course, prescribed for the enteritis and had the pleasure of seeing the little fellow slowly begin to improve after the first few weeks. After awhile the bowels resumed a natural condition, the stomach became quiet, the digestion improved, the boy became strong, and the rest of his teeth appeared. And now, after ten months on Nestle's food, he is a well, fat, rollicking boy, walks anywhere, talks enough for two girls his age, and is beginning to eat and digest table food.

Case 2. James, the son of Mrs. G., at birth was a fine, healthy boy, weighing ten pounds. Mother strong, healthy woman, who had nursed her former child successfully. At the age of two months it was noticed the baby was not thriving well, it was also noted that the mother's milk was not of normal quantity and quality properly to nourish the child. Various foods and medicines were tried to improve the milk, without avail. At the beginning of the third month the baby weighed only twelve pounds. I ordered Nestle's food, two level teaspoonfuls in 6 tablespoonfuls of water and a pinch of salt, prepared as above and fed to baby every two hours. He at once began to improve and grew rapidly. The food was continued, gradually increasing the ingredients in composition as he grew older, and had no trouble of any kind except an inclination to constipation, which was relieved by the use of infant's glycerin suppositories. The child is now thirteen months old, has six teeth, weighs thirty-one pounds, and is the picture of perfect health. WILLIAM E. FITCH.

New York City.

A POULTICE UNDER DIFFICULTIES

I was called to see a man with pleurisy. He was suffering most severely and something had to be done immediately. I

called for something to make a poultice of, but there was nothing to be found. I asked whether they had salt and vinegar, and they replied they had salt and probably could get some vinegar at a neighbor's. So I gave the patient ten grains of Dover's powder, and then went to the pantry for the butcher-knife and to the coal pile for a shovel, and running to the pasture lot I removed the snow and cut out a piece of sod about twelve inches square, which I then laid on the hot stove. In a few moments it was ready and the vinegar had come. A mixture of salt and vinegar was poured on the dirt side of the sod, and this was enveloped in flannel and applied over the seat of pain. In a few minutes the patient became quiet, and in less than one hour was almost entirely relieved, and we had plenty of time to prepare another before the first one had cooled off. I have made use of the same remedy many times since, even when I could have had anything else I might have wanted. The sod should be clay-soil.

A. J. RATHBUN.

Burghill, Ohio.

OPPORTUNITY

In the busy world around us,
As we see it day by day,
While we hurry on, unmindful
Of the beauties by the way,
There are those who in the turmoil
Of the busy strife for gain,
Pass by gems of greatest value,
Which they long have sought in vain.

While they search with greatest ardor,
Looking high, and far, and wide,
They o'erlook the thing they're seeking,
And go onward in their pride,
Till some humbler, meeker brother,
Trav'ling o'er the selfsame track,
Finds the gem, on which the other,
Passing by, had turned his back.

Thus we see that those deluded,
That the good, beyond is found,
And pursuing this, neglecting
All the better things around;
Oft may miss it, while another,
No phantasmal goal in mind,
Ever watchful, finds the jewel,
And thus benefits mankind.

Like the children in the story,
Gath'ring lilles on the pond,

Always hoping, ever seeking,
For still prettier ones beyond;
Put off plucking till the boatman,
Rowed the craft back to the land,
And the darkness coming on them,
Found them each with empty hand.

So may we be prone to wander,
And neglect our chances thus,
Till the opportune time passes,
Never to return to us;
Then let us be up and doing,
Gather flowers while we may,
Do our best now, and remember,
We're not coming back this way.

HOMER CLARK BENNETT.

Lima, Ohio.

PRESCRIBING OR DISPENSING, AGAIN

I have been much interested in your comments and arguments anent the druggist and the dispensing physician, for I have been both. No question is ever settled till it is settled right, and this is no exception; and in every town where there is a physician and a drugstore an effort should be made by one or both to get together, for their own good and the good of the public.

Let us assume, first, that both the druggist and the doctor are in business primarily to make a living, and that both desire to do it honestly and according to the ethics of their profession? Further, that it is an undeniable right of the physician to dispense if he wishes. Whether the druggist has been driven into counterprescribing by the dispensing doctor, or the opposite, is immaterial. It is a fact that druggists do prescribe and physicians dispense.

A man goes to the druggist—says he has a pain in his back—thinks it is his kidneys. Does the druggist refer him to the doctor? No! He gives him Doan's, Dodd's, De Bell's Kidney Pills, when maybe the liver is to blame. Again, another man goes in and says he has a cold on his lungs, and Mr. Druggist gives him cough syrup, or worse still, he says, "Here is a prescription of Dr. So and So which he always uses in such cases." Do these things please the doctor?

Again, suppose in either of these cases these men are referred to Dr. A. B. C. The latter prescribes and does his own dispensing. Does this suit the druggist? He has lost the profit on a sale of something

which might have done the patient good—and he has had no prescription to fill. Again, the doctor has dispensed—and did it for the same fee as if he had not prescribed a thing. Why? Because if the patient needs any more medicine he must come to the doctor and can not have the prescription refilled.

There are many sides to some questions, and this is one. No one can prevent the druggist from selling Billie's Blue Pills for Blanched People if he wishes, but the druggist need not furnish them unless they are asked for.

No prescription should be refilled unless so ordered by the doctor, who is the sole judge of whether it has done its work. And if the druggist is fair to the physician not doing these things, the physician should send prescriptions to the druggist at least in part, and especially for the things that are more expensive than the doctor may care to furnish without increase of fee.

Another thing. Especially in small places is the practice of physicians owning and operating a drugstore virtually forcing the other doctors to dispense; and further, the homeopathic doctor dispenses because it is convenient and the cost comparatively small, and he has been trained that way. This too forces the others to use the same in small places, and the majority of doctors are in small places.

Not only doctors and druggists should get together, but doctors and doctors, not necessarily in practice but in methods of business. There is too much "cut your neighbor's throat" in the practice of medicine. If you can't say something good, say nothing, and do not act as if you could tell something bad if you would, either.

A. F. SWAN.

Frederick, Colo.

[Dr. Swan's article again shows the complexity of this question, and in our opinion lends support to our own belief, that the problem is an individual one, which each man must solve for himself, as his own interest and his own conscience dictate, *always* keeping in mind that the patient's interest is above that of either doctor or druggist. If

I believe that I can give better service, cure more quickly and more surely by carrying my own remedies, having them always at hand, then this is my right and duty. This is our attitude. But if you, on the contrary, believe it better for your patients to send your prescriptions to the druggist it is your right and your duty so to do.

On one thing we can all agree: If you have a druggist near you who is fair, square and helpful, you should support him. Even if you dispense there are many occasions upon which you can prescribe, showing a true, helpful spirit of reciprocity.—ED.]

A FEW QUESTIONS AND ANSWERS

1. Is it a fact that when at stool the salivary glands are excited beyond the normal? If not, why is the act of expectoration so freely indulged in at that time? In other words, is there any connection between the upper and lower ends, the beginning and ending of the alimentary canal, gravid or otherwise, akin to that existing 'twixt the mammae and uterus?

2. It is stated that the only reason that people are dumb, is the fact that they are deaf, and being deaf cannot hear articulate sounds, hence never acquire the art of speech? Is the cause structural or functional as applied to the organs of hearing? In all our medical training and reading we have failed utterly to get any light on the subject.

3. What is a reasonable explanation of the fact that two or more medicines that are very toxic may be, and often are combined in a prescription, with good effect, when if either is given in the amount that is presented by their combination, fatal results may follow?

4. Can a reasonable explanation be given on which we base the fact that our toxicants are our best, or among our best, remedies?

5. Cats and dogs both carnivorous animals, eat grass when they wish to produce emesis in themselves. All flesh-eaters, even to the buzzard and carrion-crow, possess the power of emesis. This brings out the question, Do the herbivorous animals possess this power, or can they or do they vomit? If

not, what functional process takes the place of emesis, or is the act only confined to the meat-eaters?

6. If, as physiology teaches, meat should be thoroughly chewed in order to aid digestion, why do the carnivorous animals all *bolt* their food and not chew it at all? We personally hold that "tough beefsteak is a blessing in disguise."

W. H. H. BARKER.

Harvey, Iowa.

[1. I do not believe this to be the case, it certainly is not with the writer; and in any event, I believe it to be strictly an individual matter. Some persons may notice a tendency to expectoration at that time but not others.

2. This is the case ordinarily and in all instances excepting where there is a radical defect with the organs of speech, which renders speech impossible even where hearing is present. The person who is deaf is necessarily dumb because he is deaf, and not on account of any defect in the organs of speech.

3. The only explanation is that the two remedies counteract each other's effect or else form a chemical union by which both are rendered innocuous, a third chemical substance being formed.

4. Unless a medicine has some effect upon one or more of the vital functions it is inert; naturally the more powerful its effect is, the greater will be the value of the drug as a medicine and the greater its toxic properties.

5. The fifth question I pass along to our specialist in comparative physiology.

6. Perhaps the reason that carnivorous animals eat their food without chewing is that they are not furnished with grinding teeth, which would enable them to masticate; and secondly their digestive apparatus is arranged with a view to digesting that sort of food. It may be taken as a general rule that the teeth of any animal are correlated with the remainder of its digestive apparatus. Since the herbivorous animals are furnished with grinding teeth, their vegetable foods should be ground before presented to their stomachs. A bright editorial friend sug-

gested in regard to Wiley's suggestion, that we bolt our food like dogs, "that would be a good thing to do if we were dogs."—ED.]

"MULE-SENSE" AND SUCCESS

In 1892 I got a sample of granules and a 6-vial case from Chas. E. Fougera, of New York. In the beginning I used them blindly, almost, as I had no literature by which to be guided. For two years I felt my way along, paying double and treble for the French goods, when I received from you a copy of *THE ALKAЛОІDAL CLINIC* together with other literature. I immediately sent for a 2-dozen-vial case and "Guide," also subscribed for the journal, which I have taken since, and I am proud to state that I have never regretted either.

I have been using the dosimetric preparations for more than fourteen years, and I have not the least desire to return to the old "shotgun" methods. I had become almost a nihilist before getting *The Dosimetric Review*, of New York, which I took until there was a misunderstanding between us and I discontinued it. It was a bright little journal and very practical.

In using the alkaloids a doctor must have the absolute "mule" sense or else he is a failure. For instance, he cannot be governed by Dr. Shaller's "Guide" entirely, and I don't think the doctor intended that one should. In a case of infantile convulsions or high temperature the physician cannot give to every two-year-old child two granules as directed and one for the glass; he must give enough. I have given as high as eight granules to the glass (24 teaspoonfuls) and of this I give a teaspoonful every fifteen minutes for an hour or two, watching the effect, and then as temperature begins to decline, reduce the dose and extend the time, and I have almost invariably the same results. Every symptom is improved in the course of two or four hours, with not the least bad effect.

I am not boasting. I lose patients as all doctors do who are fortunate enough to have any. But I do pride myself upon the fact that I must write but few deaths certi-

cates for children or young persons. And my friends say that I am a good doctor for babies and women and I had much rather have that reputation than that of being a great surgeon or specialist.

And right here allow me to say one word about the sulphocarbonates. My mode of giving them is to give *enough*. I usually begin with one tablet in a case of typhoid fever or any other septic condition, repeating every two hours during waking time. If after twenty-four hours there is no perceptible decline in temperature I order two tablets, two hours apart, and for the ensuing twenty-four hours increase to even five tablets every two hours. I have had to give the five for twenty-four hours, in only one case, and that was a badly neglected case of typhoid fever in a young man of 20 years of age who was almost a giant. I have never observed nausea or other bad effects.

Always when enough has been given the fever will invariably come down and I drop off the tablets as I find fever declining. It is real satisfaction to just see how the fever leaves, and I never have such a thing now as tympanitis or diarrhea. It is all rot about the sulphocarbonates producing vomiting and nausea. I have used thousands of the tablets and have never had it occur—and as you see, in allopathic doses too. I forgot to say that I employ the tablets in solution.

Now as to the hyoscine, morphine and cactus compound, I am prepared to say it is the most perfect preparation I have ever seen. I received my first consignment of the tablets from you on the 27th of February, 1907. I was called to see an old gentleman, at 3 o'clock a. m., who was suffering with renal colic. I gave him a hypodermic of H-M-C tablets and stayed by him a half hour. He went into a quiet sleep from which he awoke entirely relieved. About noon of the same day I was called to see a lady 40 years of age, suffering with the same difficulty. I gave her the same treatment, which was followed by the same results. I now use it almost exclusively for severe pains, but I'll never give it to a drunkard, and I would strongly advise any doctor to give in such cases something else. I know

what H-M-C will do, and that is sufficient. Also I consider it is dangerous for children. In obstetrics it has no peer.

B. R. BRADLEY.

Hondo, Tex.

[We have read with deep interest your splendid letter to the journal; and "splendid" is none too strong, because it is just as full as it can stick with the best kind of common sense—one of the rarest things in this world. It goes without saying that you are a successful doctor; the man who has high ideals and is striving to attain them in his practice cannot possibly go very far astray. Of course you lose a patient occasionally, every doctor does who has any kind of practice, but the man who puts brains and thoughtfulness and care and conscience into his work will not have nearly as many death certificates to sign as the fellow who stumbles along, treating his cases along textbook lines, accepting the dicta of the latest authority as law and gospel.—ED.]

MY EPITOME ON THE AUTOMOBILE

(Gasolin Cars.)

First: The car should be of chassis construction.

Second: The engines should preferably be of the four-cycle type.

Third: The engines should be four- or six-cylinder construction.

Fourth: The engines should be placed under the hood or bonnet, and be accessible.

Fifth: The engines should be supplied with some type of positive lubricating device.

Sixth: The car should be equipped with the beveled gear or direct drive.

Seventh: The transmission should be preferably the sliding-gear type, but some forms of the friction-drive transmission are successful. This applies to the "Carter" car.

Eighth: The wheels should be what is known as the "Artillery" wheel.

Ninth: If water-cooled, the circulation should be forced, having a pump for that purpose.

Tenth: The ignition should be of the jump-spark type, preferably operated from

a reliable magneto and spark coil, carrying an emergency set of batteries in case of mishap to the magneto.

Eleventh: The car should be as light as possible consistent with good construction.

I wish to retract from my former statements enough to say that there is one car, the "Elmore," employing a two-cycle four-cylinder engine, which is proving itself equal to all tests so far applied to it. I still hold to my former suggestion that for a physician's use the "Franklin" car fills all the requirements.

I wish to say further that any physician addressing me personally on this subject will receive the best attention I can give consistent with the class of questions he may ask, and the time at my disposal to answer them.

F. N. RICHARDSON.

Cleveland, Ohio.

THE POST-GRADUATE COURSE

I believe this is going to be the greatest therapeutic schooling we "old boys" have ever had and I want to get as much good from it as I can. It will soon be twenty-one years since I received my "sheep-skin" from the little Columbus Medical College at Columbus, Ohio, where we studied "Wood" under Professors Hyatt and Bornhill.

H. J. CAMPBELL.

Glenwood, W. Va.

URIC-ACID DETERMINATION IN PRESENCE OF ALBUMIN

Take 120 to 125 Cc. of the urine (previously gently warmed and filtered), add 1 Gm. of anhydrous sodium carbonate, and dissolve and filter. To 100 Cc. of the filtrate add 25 Cc. of 50 percent ammonium nitrate solution and 5 Cc. of solution of ammonia. Set aside for twenty-four hours, then collect the precipitate on a plain filter (using a 10-percent solution of ammonium nitrate containing 1 percent of ammonia to transfer the last portions). Wash the precipitate with the same solution; finally, wash through

into a flask with about 100 Cc. of distilled water. Treat this mixture with 40 Cc. of 50 percent sulphuric acid warmed to 50° C., then titrate with solution of potassium permanganate, 1.5 Gm. to 1000 Cc. The number of Cc. used to produce a permanent rose-tint multiplied by 0.00356 indicates the weight of uric acid in 100 Cc. of the urine.

J. S. TALBOT.

Milwaukee, Wis.

IN DEFENSE OF THE HOLSMAN AUTOMOBILE

I note in your issue of March, page 390, an article by Dr. L. M. Lowe in regard to the Holsman automobile.

I have been driving a machine of this make for four and a half years. During this time the machine has done all of my professional work besides more than thirty trips to the country. It has never been hauled in but once. Before purchasing this machine I ran four other makes of gasolin cars with pneumatic tires with very poor success. My experience leads me to believe that pneumatic tires are not only very expensive for a physician, but are absolutely impracticable, that the water-cooling system increases the possibility of trouble fully 20 percent, that the low wheels and low ground clearance, with its attendant dust-nuisance and possibility of plowing into high-centered roads, is fatal to its consideration by a physician for practical purposes. I have never had a breakage on my Holsman car which I could attribute to other than my own carelessness or neglect. The company has always treated me justly and has done everything for me within reasonable bounds. I shall always run a Holsman until a better car is produced. From my observation I think it will be a long time before its equal will be produced.

C. H. BRYAN.

Chicago, Ill.

[We have a number of other most excellent papers on automobiles which we are compelled to withhold for lack of space. We admit the short articles of Drs. Richardson

and Bryan that full justice may be done the "Elmore" and the "Holsman". Perhaps a little later we may conclude to continue this subject. Is it of sufficient interest to the "family"?—ED.]

HONEST CRITICISM

In your introductory letter you said, "If you do not agree with us, say so, and tell us why." So here goes for an honest review and criticism. I have carefully read CLINICAL MEDICINE since October and have seen much in it that I like, some of which I will mention specially later on, but

ministering the anesthetic and then do it as expeditiously as possible.

Once, in Jefferson Hospital, the twenty-five surgeons on duty there were requested to repair to the operating room, where a man's arm was to be amputated for gunshot wound of the elbow-joint, involving nerves and large vessels. I supposed that Surgeon Goldsmith, who was in charge of the hospital, was to perform the operation. Besides the twenty-five surgeons of the regular staff (of which I was the youngest) there were present Medical Inspector Wm. Clendennem, once surgeon general for General Garibaldi, and Surgeon General J. C. Garcelon of Maine.

When I entered Dr. Goldsmith said, "Dr. Randall will perform the operation." I stepped forward and, turning to my associates, he said: "Dr. Seamans (the next youngest), please administer the anesthetic; Dr. Mercer, please assist me and attend to the tourniquet." While the anesthetic was being administered, I sterilized hands and instruments and got ready ligatures, sutures, adhesive straps and bandages, and when Dr. Seamans indicated that he was ready I looked at my watch, picked up the knife and went at my work, and when it was completed and the man laid on his cot, I asked Dr. Garcelon, who had been timing me, how long I had been at it. He replied, "Eight minutes."

I have had cases in which I had to do more than lift up the jaw. I have had to take forceps and pull the tongue out of the mouth, and administer ammonia and brandy; but I never had a fatal case, since I looked after the patients when they needed assistance.

Now in regard to Osler's idea of pneumonia, I desire to endorse every word of Dr. W. S. Ross's article in the December issue. I agree fully with Dr. Thalmann in regard to the early treatment of syphilis. I know that I have cured several cases that never showed secondary symptoms. My treatment is a little more heroic than Dr. Thalmann's. I cover the parts with a plaster of vaseline excepting the sore, and I burn that out thoroughly with liquid



DR. C. L. RANDALL

I think you take too much time and valuable space with that Van Meter case. Dr. Van Meter may be a surgeon of ability, as his friend Dr. L. W. Lord said in the December number, but he is certainly a very careless one, or he would not have left the case as he did. I have been using chloroform and ether for nearly fifty years in hundreds of cases (more than three years in the United States army), and have never had an accident or fatal case of pneumonia following the use of either, and I will tell you why. I first determine what is to be done before ad-

bromine, dip a pointed pine stick in bromine and work it thoroughly through every part of the sore, and it very seldom requires a second burning.

I treat buboes in the same way after removing the plaster thoroughly. I wash the parts with a solution of bromine, from three to five drops to the ounce of water, and give constitutional treatment of bichloride of mercury in full doses. I got to using the bromine in those cases in the U. S. army after using it on hospital gangrene.

I have been delighted with several articles upon the subject of temperance and with the tone of CLINICAL MEDICINE relative to the abuse of alcohol.

Now with one more criticism I will close for this time. One would be led to think that the use of active principles was of recent date, and that "us old fellows" used nothing but crude drugs. I have been using them for forty years. I also use some tinctures and fluid extracts, also a large number of tablets as made and supplied by reliable houses, of which there are many, and with a measure of success of which I have no reason to be ashamed, particularly so in typhoid fever, where I use the sulphocarbonates until I get the desired result.

C. L. RANDALL.

Altamonte Springs, Fla.

[Doctor, I don't believe you have read the CLINIC long or you would not "mix in" the tinctures and fluid extracts with your "active principles?" This article should have appeared before, but we can't help it. Too much of the "good stuff", as Elbert Hubbard calls it—so that some of it has to wait. Don't let that discourage anyone.—ED.]

HOW IS IT WITH YOU, BROTHER?

DEAR OLD CLINIC:

Please allow me the customary privilege, granted the elderly, of scolding and criticizing a little. I am aware that this is a whip-jacket game; but somebody should do these duties—and why not myself?

I am sometimes miscalled a "funny man," but generally my fun is so far-fetched that

one gets tired waiting for it, and still more "tired" when it comes. But, nevertheless, when Darwin thrust his "Theory of the Origin of Mankind" on the world, I did some lively and elevated kicking, as did the other donkeys.

Sadly, we find not the "missing link," but the ever-present one, the one connecting man and monkey: imitation. This is the characteristic of the monkey, doing what it sees others do. This very quality is strongly inherent in a good many people, some physicians included; and most unfortunately a great many cultivate this quality so assiduously, and develop it so exclusively, that they are but the images—and often very imperfect ones—of their patterns. And if at first they preserved the quality of originality, they dwarfed and seemingly annihilated it, by neglect. One would almost be tempted to think that the days of originality had passed after having waded through the masses of medical literature and come in contact with a few hundred medical men. But I am glad to feel that this is not so. The world is progressing, the medical profession is progressing. And progress is but another name for originality—something new, something not known before. This much by way of preamble.

The medical textbooks are useful only as the physician rightly interprets them, applies their teachings. Our "textbook doctors" are not only stumbling blocks to the progress of our profession, but are often fearfully harmful to their patients, even unto death. Our CLINIC textbooks are but the records of other men's experiences. Doctors are not doing their best when their highest ambition is to profit by other men's experiences. Such a man is either too lazy to carve out something by his own efforts (he would rather "pick up the wood that other's have sawed"), or he has not the brain capacity that should be the endowment of every physician. In either case such a man should step "down and out," for he has missed his calling.

Medical textbooks are all right, in fact indispensable, for the teaching of principles, laws and general procedures of the means

and methods of treating the sick and injured. But when it comes to *my* patient, no other man's experiences can do justice to this case. There never was a case just like this one; there never will be another case exactly like this one. Now then, I ask you, in the name of common sense, can I treat this case intelligently by relying on any textbook for its treatment?

One may look at the picture in the book and then at that on the bed, and say "they are alike;" but by so saying such a one has confessed his blindness. But if I have made a correct diagnosis (this is a broad and deep word; it means "I know"), if I know my case, understand the conditions and interpret them correctly, then I may use my textbook as a general guide. But I will not treat my pneumonia, typhoid fever, cholera infantum, meningitis or other cases as Hämmerer, Watson, Hare or any other author directs, because none of these physicians has seen my cases. To apply rationally the principles they teach I must use my own brains.

Our textbooks and literature are full to repletion with information as to the means and methods used in the treatment of all manner of diseases; and we talk one with another, and read numberless articles on "How I treat this, that and the other disorder"—each and every teacher trying to impress his own personality on his readers and hearers.

With such an education and training as this, is it any wonder that we are an army of imitators? What shall we do? What do we need? We need first to get out of all ruts, hustle our own brains, and dare to do at least some of our own thinking. We need to know the exact conditions—all of them—of each and every one of our patients; and we must remember that the conditions of our patients are distinctly individual, as the personality of the patients themselves; and we need to know most of all how best to meet these conditions, promptly, fully and correctly, not necessarily as the authorities direct. We must cultivate the habit of pains-taking, conscientious examination; develop the gift of comparison, that we may differ-

entiate correctly; then, and not till then, are we in a position to understand the indications.

Just here comes in our therapeutics. What is therapeutics anyway? Perhaps this is as good a definition as any: The administration of proper remedies, at the right time, in sufficient quantity and in the right manner fully to meet the indications in our patients. Again: Give those remedies that will meet the needs of our patients, in "dose enough" until we get results, either curative or physiological, and not stop until either one or both of these points are reached.

Allow a few comparative illustrations: A doctor was called early to a case as follows: A young man, 18 years of age, of good family history; healthy and robust up to this attack; temperature 105°F., pulse 130 and jerky; respiration 50 per minute, and shallow, painful and somewhat gasping; some cyanosis; all over right chest, dull, very anxious countenance, bloody sputum, cold hands and feet.

"What's the matter, Doctor?"

"Pneumonia, congestive stage."

Treatment, phenacetin, 5 to 10 grains every hour till temperature is 100°F., one grain of calomel hourly for four doses, then epsom salt. Hypodermic of morphine for pain. Turpentine stupes to chest, heat to feet, cold to head. Result: death in eight hours. The teaching of Prof. A. was followed in this case. This boy should not have died, and would not if the indications had been promptly met. This doctor did not understand the great principle of circulatory equilibrium, nor the means of securing it.

Dr. Copy is called to see a lady of 20 years. Temperature 102°F.; pulse 120, irritable and very compressible; respiration 28 per minute; foul breath, tongue coated pale-yellow, but broad and flabby; nervous; skin dry and "leathery;" constipated; urine high-colored and scanty; sharp pain in left chest; cough and "brick-dust" sputum; nausea and great restlessness; crepitant râles, and some dulness.

"What's the matter with my daughter, Doctor?"

"Pneumonia, Sir."

Doctor scratches his head. "Lots to do here," says he. "Let's see what Prof. B. advises. "Ah! I have it now."

Treatment: Reduces fever with acetanilid or phenacetin, 3 to 5 grains every hour, assisted by cold-water applications. Quiets pain in chest by turpentine stupes, antiphlogistine, and hypodermics of morphine and atropine. Cleans out bowels with calomel, 1-2 grain, podophyllin, 1-6 grain, every hour for six doses, then "salts," and repeat every second day. Cough mixture of compound syrup of squills and codeine. Keeps head cool and feet warm, and plenty of water to drink, with nutritious liquid diet.

Result: Young lady dies on the sixth day of "nervous prostration" and cardiac failure. She should have lived, and would, if she had been treated rationally. This doctor failed to see his patient's lack of vital resistance; he took a "cut-and-dried" treatment and tried to fit it to his patient, and so the undertaker proved a better fitter than he. Because of her lessened vital resistance and cardiac weakness she could not stand the cardiac depressants and the purging that she received. Vital-stimulant tonics and antimicrobics—intestinal antiseptics—were urgently demanded here.

Doctor Lazy was called to see a man forty years old, and up to this time healthy; nervous temperament. Temperature 105°F., pulse 120, full and bounding, respiration 36 per minute; flushed face, great pain in right side and chest, some headache, slight delirium; foul breath and yellowish white, thickly coated tongue; hot, dry skin; scanty, high-colored urine; nausea; crepitant râles, some dulness in lower right lung; harsh, dry cough, but little sputum and tenacious. Diagnosis, pneumonia. (A one-eyed diagnosis.)

Doctor C., of Belview, is this doctor's patron saint in the treatment of pneumonia, who teaches that this is a self-limited disease, and all you can do is to guide the case and this is the general way he guides it. Treatment: Never mind the bowels, nature will attend to them, so the doctor neglects to "clean up, clean out and keep clean." He strives to control the fever with anti-

pyretic drugs and cold applications and, to be sure, fails. He protects the chest with a good cotton-wool jacket, gives strychnine in liberal doses to sustain the heart and nerves, gives internal antiseptics with a view to destroying the pneumococcus and neutralizing their toxins, directs plenty of water and proper diet. Result: Patient dies on ninth day. Autotoxemia and septic infection killed his patient. This doctor failed to make a full diagnosis, and failed to meet the paramount conditions. But he and the family had this consolation to comfort (?) them:

"Well, I followed the treatment laid down by our standard authorities; he has had the very latest up-to-date treatment known, and as he died, it is evident that he was bound to die."

This man, too, should have lived, and he would, had he been thoroughly cleaned out and kept clean and his circulation equalized; and then his fever could have been controlled, not otherwise. All of the above treatments, as directed by the attending doctors in the cases cited, may be very good for pneumonia. I do not know, but they proved dismal failures as good treatments for the patients.

Once more, and the last. Doctor called in haste to see a young man, 21 years old; robust, sanguine temperament; face cyanosed, very rapid, shallow and painful breathing; arms and legs cold up to elbows and knees; cold skin and "goose flesh" over all extremities; pulse 135, temperature 96°F., even the breath and tongue seemed cold. Total dulness over entire right lung, only bronchial sounds, no cough. Diagnosis: Acute congestion of right lung.

Treatment: hypodermic injections of atropine sulphate, 1-50 grain; strychnine sulphate, 1-15 grain; glonoin, 1-100 grain at once; repeated last two in fifteen minutes. Hot frictions and massage to arms and legs. In a few minutes the extremities were getting warm, cyanosis lessening, breathing easier; in one hour patient was warm, pulse 110, temperature 99°F., respiration nearly normal. Two hours later temperature was 102°F. For the control of the reactionary fever he

gave one granule of the defervescent compound No. 1, every thirty to sixty minutes. Gave apomorphine, 1-67 grain, emetine, 1-67 grain every hour to two hours to keep lungs clear. Covered chest all around with cotton-wool jacket; cleared out the bowels with calomel, 1-6 grain, podophyllin, 1-6 grain, every half hour for five doses; dessertspoonful of saline in cup of hot water every hour till the bowels began to act, beginning two hours after the last dose of the granules; then he kept them as clean as possible by the triple sulphocarbonates, two tablets (dissolved) every two and four hours; twenty drops of creosol every three hours and a free diet of buttermilk. Patient recovered in three days. No textbooks relied on here. The *patient* was treated, the indications promptly met, hence this legitimate and logical result.

These are not hypothetical cases, but are real cases (names excepted) though somewhat abridged. It may be objected that some of the requirements are ideal. Even so. Every physician should have his ideal. He should place it so high that it would be his pattern, and so far ahead that it would be his guide; and as he develops and progresses and approaches his ideal he should place it still higher, and still further in advance, for when he reaches his ideal, it ceases to be an advantage to him. His ambition sleeps!

Brethren! What I wish to impress is this: that we shall be true physicians, not imitators; not even be satisfied to be "mere doctors." I rather fear that we have doctors many, physicians few.

I crave your clemency for having been so dogmatic. But true dogmatism is the result of knowledge gained by experience and often makes one bold, if not almost impudent.

ORVILLE H. WESTLAKE.

Lubbock, Texas.

THE SULPHOCARBOLATES IN ENTERIC TROUBLES CAUSED BY USE OF "ALKALI WATER"

Dr. Fremont E. Wood, Narco, Ariz., calls attention to the fact that small doses of the sulphocarbonates promptly control the in-

testinal irritation so frequently caused by drinking the so-called alkali waters found in the semitropical arid districts of the Southwest. As we have not been able to analyze a specimen of alkali water we are not able to explain how it is the sulphocarbonates prove so promptly beneficial. It is suggested by Dr. Wood that a septic condition promptly follows the ingestion of the alkali water. The sulphocarbonates in medicinal doses, here, as elsewhere, arrest bacterial development and prevent fermentation. We do not know that this is the correct explanation and are rather anxious to sift the matter to the bottom. If any of the readers of *CLINICAL MEDICINE* have had experience along these lines we shall appreciate their opinion of the matter. Under ordinary circumstances one would hesitate to give the sulphocarbonates in cases where intestinal irritation existed following the ingestion of an alkaline water and would be rather inclined to give dilute acids. Perhaps Dr. Wood's theory is correct after all, for certain bacteria propagate in an irritated and hyperalkaline intestine which would not otherwise prove troublesome.

PNEUMONIA

Here is a new case just off the ways, another one of those cases, perplexing, which spoiled a'bornin'. I had no doubt as to what it was until it was over. Then doubts actually arose in my own mind because of the remarkable results. Had the patient died, of course even the doubting prescribing galenics would have admitted an honest case of pneumonia. But here is the case.

Mr. P., aged 45, farmer, good habits. This man had the usual bad cold and functional disturbance for two weeks preceding February 14, when he had, soon after breakfast, a severe chill. At 3 o'clock that evening I found him delirious, pulse 120, temperature 104°F., breathing rapid and superficial, dulness over left lung, but little cough; cheeks flushed.

Treatment: Cleaned out with calomel and podophyllin, five doses of 1-6 grain

each, half an hour apart; after that, give antiseptic tablets every hour; defervescent granules every twenty minutes until pulse and temperature are reduced.

The next morning I found that the bowels had moved freely during the night. There was still some delirium. Pulse 110, temperature 102°F., breathing labored, sputa streaked with blood. I continued the prescription of the preceding evening, with the addition of hyoscyamine and emetine for restlessness. On the evening of the 15th, the pulse was 90, temperature reduced to 100°F., breathing easier but with pain in side. Stopped defervescent compound, continuing the other treatment, giving atropine and codeine for pain.

On the morning of the 16th the pulse was 92, temperature 98°F., breathing easy, air entering left lung. There had been profuse sweat in the night. I ordered the trinity granule every two hours and saline laxative to move the bowels. I called on the evening of the 16th and found the patient convalescent.

Thus in three days the severest attack of pneumonia seen by the writer this season was aborted, while many other cases are occurring in the same community. Dear Doctor, this makes our work so much more pleasant and effective, that though I am getting old I can't help a good deal of enthusiasm in it and to sorrow for the deaf ears of the many.

R. I. MCQUIDDY.

Lawrenceburg, Ky.

[Let us congratulate you and at the same time assure you that just such results almost invariably follow precise medication. For instance, the writer's servant girl, a strong, healthy Swede, twenty-three years old, was attacked last Sunday with intense colicky pains, which she supposed to be of a dysmenorrheic nature, and retired to her bed. She was not examined, but the usual remedies for dysmenorrhea were exhibited during the latter half of the day. On Monday morning pains were worse, bowels obstinately constipated, and an examination revealed temperature, a foul tongue, marked

rigidity of the right rectus muscle and extreme tenderness over McBurney's point, together with the other classical signs of appendical involvement. The girl was warned that unless symptoms subsided in twenty-four hours operation would be necessary. The bowels were cleaned, alkaloidal treatment for appendicitis was instituted, and this morning, Tuesday, the abdominal walls are flaccid, temperature 99°F., pain has disappeared, with the exception of slight tenderness on deep pressure, and with another twenty-four hours' rest the girl will be ready to resume her occupation. Taken early, all these inflammatory conditions can be controlled, but a single false step may lead to disaster.—ED.]

THE BUILDING OF EUSOMA

An excellent illustration of correct prescription building is shown in the preparation of eusoma. Dr. Chamberlain found echinacea being enormously used by country physicians, who exhibited a remarkable unanimity as to the great value of the drug and the use to which they put it.

He found that the remedial principle was best extracted by pure alcohol; the resulting preparation, however, was not miscible with water without the precipitation of the active ingredient. This was to a large extent obviated by the addition of boric acid. When this tincture was applied to wounds, however, it was found that it caused an exuberance of granulations, with resulting excessive scar-tissue.

Thuja had long been used as a local application in the treatment of wounds, and was believed to possess a power of contracting the arterioles and capillaries, lessening the blood-supply to the inflamed part. As it seemed to counteract this undesirable effect of echinacea, thuja was therefore added to the prescription; and the results of a very large number of experiments confirmed the correctness of this idea.

Baptisia is looked upon by many physicians as a very valuable internal antiseptic, and seemed to be, therefore, a useful ad-

juvant, to be employed to obtain prompter action in cases of general infection. This was therefore added so that the product might be equally valuable when given internally. It was believed that by the use of baptisia much quicker effect could be obtained than from echinacea alone, while the latter prolonged and confirmed the effect commenced by baptisia.

The result of these prolonged experiments was the preparation now known as eusoma. This may be news to those who think that such prescriptions are simply a heterogeneous muddle of remedies, supposed to act in a somewhat similar manner. It will be seen that each ingredient of this preparation was added with a definite purpose, and that this purpose was confirmed by prolonged experiments. As to the usefulness of the preparation, this is a question which each practician must decide for himself.

A CASE OF APYRETICAL TYPHOID FEVER

The following case is unique and rare and worthy of being placed on record. M. S., age 5 years, Brahmin by caste, was attacked with fever and cough on the 15th of October 1906. His father, a clerk in the District Engineer's office, sent for some fever-reducing and cough mixture. This relieved the cough, but the fever went on higher and higher, so that the father expected the boy to have typhoid fever, as his eldest son, age 10 years, and his nephew, age 13 years, had suffered from typhoid fever respectively two and five months previously.

I was called to see the boy on October 20, 1906, and found the following on examination; abdominal tympanites, gurgling around the umbilicus, about twelve or thirteen minutest vesicles (pearly appearance), tongue dirty-looking, its tip-edges glazed but center fissured and covered with dirty fur. Sordes on teeth. Temperature (armpit) 102.6°F.; pulse 96, bowels irregular; thirst excessive; anorexia marked; general aspect apathetic and listless. A

little delirious at night. Evening temperature, 104°F.

I reserved my diagnosis, but at once resolved to apply the "clean-up, clean-out and keep-clean" principles of Doctors Waugh and Abbott. I prescribed calomel, gr. 1-6, podophyllin, gr. 1-67, one granule of each every two hours for three doses, followed by 2 drams of saline laxative (Abbott) in 8 ounces of lemonade (warm), which brought out three very offensive stools in the night. Urine was high-colored and scanty.

On October 21 his morning temperature was 100.6°F., evening 101°F. Abdomen as before. Saline laxative and eliminant pills were given, and four stools passed—the last two being slightly yellowish but all offensive. Urine scanty. Perspiration *nil*. Water (warm) allowed *ad libitum*. Diet: rice water with salt and lime juice (fresh) every four hours.

October 22. Morning temperature, 98°F.; evening, 100°F. Two soft stools which were frothy and slimy and of yellowish tint and not very offensive. Diet as before. Prescribed the following: Ecthol (Battle), 2 drams; tincture of baptisia, 1-2 dram; sodium sulphate, 1-2 dram; savin, 1 grain; water, 3 ounces. Dose, 2 drams every two or three hours. Intestinal antiseptic (calcium, sodium and zinc sulphocarbonates, Abbott), half a tablet every four hours for four doses. Diet: Rice water and corn-flour congee every four or five hours.

October 23. Morning temperature, 99.6°F.; evening, 98.4°F. Four loose typhoid stools, vesicles extended to chest and neck. Gurgling still present. Tongue a little clear. The patient losing strength.

October 24. Morning temperature, 96.6°F., and evening, 97.2°F. Two pulaceous dark stools, not very offensive. Mixture discontinued. Intestinal antiseptic four times daily. Patient was also given quinine hydroferrocyanide, gr. 1-6, and nuclein, gtt. 2 every three hours for four doses. Diet as before.

October 25. Morning temperature, 96.2°F.; evening, 96°F. No stool. Patient very low and dull. (Sinking.)

October 26. Morning temperature, 96°F., and evening, 96.8°F. Patient dull and apathetic. Could not answer questions put to him, for two hours. Given triple arsenates with nuclein (strychnine arsenate, gr. 1-134; quinine arsenate, gr. 1-67; iron arsenate, gr. 1-67; nuclein, gtt 4), one granule every two or three hours for three doses, then one every four hours; intestinal antiseptic twice daily. Diet: rice water and coffee. The latter increased his urine a little.

From October 27 to November 2, 1906, his temperature ranged between 97° to 97.4°F. in the morning, and 97.4° to 98.2°F. in the evening. He passed one or two stools daily, which were healthy looking. Diet as before, but parwar (stereospermum suaveoleus) soup with salt and pepper added. Triple arsenates, nuclein, and intestinal antiseptic (also saline laxative) continued at longer intervals.

The boy began to improve from the 30th of October. His temperature became normal on the third of November, when he was given soft-boiled rice in addition to rice water and parwar. The vesicles nearly faded, but urine still was scanty and colored.

He was given triple arsenates with nuclein, one granule after each principal meal twice daily, and brucine, gr. 1-134, and quassin, gr. 1-67, one granule of each before the morning and evening meal (twice daily). In a fortnight he regained his health and by and by was allowed solid foods.

Remarks: What was the apyrexia due to? I think it was due to the faulty action of the kidneys and consequent retention of typhotoxin. The boy was very low and sinking on the 25th and 26th, when he had no stool. I have treated 65 cases with but one death (after only eleven hours after my treatment). I always apply the "clean-up, clean-out and keep-clean" principles of Drs. Waugh and Abbott, and with good results. I never allow milk in any shape to my patients, as I found it to produce injurious symptoms, tympanites, diarrhea, anorexia, etc., with gripings. I

have always found the saline laxative indicated, also the intestinal antiseptic.

There can be no doubt about the diagnosis, as the father of the boy subsequently contracted the same disease as had his brother and cousin. I have treated hundreds of cases of typhoid fever while in government service in Raghpusana where the disease is prevalent. Mutton soup only increases thirst. I never prescribe alcohol in any disease and have no cause for regrets. None of the patients complained of any depression on account of two or three loose motions produced by calomel, podophyllin and saline, rather they felt refreshed and brighter.

THAKUR R. D. SINHA.

Motihari, India.

[This case is interesting. What think our readers?—ED.]

ACUTE GASTROENTERITIS

There can be no question that the more serious forms of enteric disease can be avoided to a great extent (and controlled promptly and positively when they do present) by modern methods of medication. Many of the cases of "summer diarrhea" which terminate fatally could have been easily controlled in their early stages. Even cholera infantum in its typical form (which after all is rarely encountered) will yield readily to proper therapeutic measures during the first twenty-four hours.

Children who have been prone to looseness of the bowels, during the months of July, August and September, are, under the care of the well-informed practitioner, enabled to pass from spring to winter without any marked disturbance of the alimentary tract. A certain increase in the number or altered consistency of the stools is to be looked for when the fruit season arrives, and with the advent of spring and "green things to eat" the average human being finds his bowels moving more freely. This is desirable and normal. Two or even three loose stools per day should not be regarded as pathological, but at the first sign of enteric disorder—

colicky pain, frequent passage of thin, watery or pasty, stinking stools—treatment should be instituted.

The doctor should impress upon his clientele the positive necessity for prompt treatment. He should especially explain to young mothers the importance of an early recognition of acute enteritis, pointing out the fact that in many cases life has been sacrificed simply because the doctor arrived too late. Often the little patient, stricken twenty-four or thirty-six hours prior with acute gastroenteritis (or cholera infantum), will succumb to cerebral congestion after diarrhea has been checked and other distinctive features of the disease eliminated. Others pass into the sleep that knows no waking from sheer exhaustion, within the same period. If early and correct treatment is called for more urgently in any one disorder than another it is in acute gastroenteritis.

This disease is very commonly and mistakenly termed cholera infantum, the latter being an entirely different and much more serious malady. The writer has not seen half a dozen cases of true cholera infantum in five years. Acute gastroenteritis is, however, omnipresent. The symptoms vary in severity and are known to every practitioner. The bacteria discovered in a given case may be numerous—streptococcus, the colon bacillus, staphylococcus, bacillus proteus and, pyocyanus, etc.—any one or a variety of these microorganisms being distinguishable in the stools. As, under medication, the frequency of the latter lessens, the severity of the symptoms moderate.

Two forms of the disorder are recognizable, one mild, the other severe.

In the first case the child (who may be teething) shows signs of malassimilation: food passes through the bowel imperfectly digested, accompanied by much gas, and attacks of vomiting occur. After a day or two the vomiting and stools become more frequent, the latter bearing either a greenish brown slime or consisting of a greenish or dirty-gray fluid.

Still later there may be much mucus streaked with blood. The smell of such

stools is most offensive. Throughout, the child is fretful and complains of cramping pains, or, if too young to do this, draws its legs up and screams. The skin is hot and usually dry and the temperature in mild cases rises one to two degrees. Occasionally vomiting is altogether absent; in others diarrhea does not appear for some hours after vomiting and other evidences of gastrointestinal inflammation.

In the severe forms all these conditions are accentuated. The temperature may reach 103°F., and as many as fifteen or twenty stools be voided in the twenty-four hours. I have noticed that such cases usually begin with obstinate vomiting and the passage of one or two stools containing much undigested food. The vomitus at first contains sour food-material and later is a foul fluid containing mucus and bile. As the child is extremely thirsty and craves for water, the abundance of the fluid can easily be accounted for.

This disease affects alike the bottle- or breast-fed infant and the child on mixed diet. While improper feeding is without doubt the usual cause, heat and bacterial invasion of an exhausted system are alone responsible in many instances.

The disease must be looked upon as mildly infectious and the stools and vomited matter should be carefully disinfected. The affected child may gradually waste and become almost a skeleton or, after a few days, the disorder abating, recover rapidly. In very marked cases death may take place within forty-eight hours. In some cases two or more such attacks occur in the one season and not at all infrequently enterocolitis sets up.

Treatment.—Knowing, as we do, that the whole chain of symptoms is due to the presence of undesirable material and bacteria and that no gross pathological lesions exist, treatment is really simple, but to be effective it must be of a positive character.

As in cholera nostras, we have to get rid, as fast as we can, of the fermenting, germ-breeding, toxic bowel-contents. Further, being aware of the presence in the rugae of the intestine of millions of pathological

microorganisms, we must not put into the alimentary tract material favoring germ-propagation. We must also exhibit in effective doses intestinal antiseptics of an astringent character.

The first step is to stop all food and wash out the lower bowel with either a plain, cool, salt or mildly alkaline antiseptic solution. If the vomiting is marked pass a catheter into the stomach and wash it out; as this is not always feasible, give a mild solution of magnesium sulphate slightly acidulated and sweetened with saccharin. Saline laxative (alkaloidal formula), one small teaspoonful to the half pint of water, works perfectly. It is well to give gr. 1-10 to gr. 1-6 of calomel and gr. 1-12 to gr. 1-67 of podophyllin half-hourly for four to six doses, according to age of child, to secure a thorough emptying of the intestine and increased hepatic activity. This is the first thought". One dose should be given before anything else is done and the physician himself (unless a competent attendant is present) should then give the enema. One hour after the last dose of calomel, exhibit a fairly full draught of saline laxative. This serves to flush the already cleaning intestine and leaves the mucosa in good condition to withstand bacteria and absorb such nutritive material as is allowed.

During this time, if the skin is hot and dry, have the child sponged hourly and covered lightly with a thin flannel garment. It is to be kept in a cool, shady place. Barley water, made thin, will prove the best drink at this period. Every two hours at least one grain of the combined sulphocarbonates of lime, sodium and zinc should be given—preferably in solution. A mentholated saccharinated tablet is obtainable which serves excellently. In bottle-fed infants this solution may be given from the bottle, as also may the laxative saline draughts. In older children, the powder, mixed with a little sugar of milk, may be given on the tongue and a drink of boiled (or barley) water follow.

Very minute doses of atropine (or hyoscyamine) are of great service during the first day: gr. 1-250 may be dissolved in six

teaspoonfuls of water and a teaspoonful given every two hours. If this treatment is carried out, the next day will reveal a recovering patient. But here care means everything: the sulphocarbonates must be continued, the lower bowel flushed and the mouth kept clean. Albumen water, barley water containing a few drops of fresh beef juice, or a few spoonfuls of a well-cooked cereal gruel may be given. Zwieback is safe and well liked by most children. Under ordinary circumstances this diet may be slowly but surely added to until normal feeding again prevails. Brucine, gr. 1-134, or hydrastin, gr. 1-6, may be given as a bitter tonic for a few days. It is also a good plan to institute about the fourth day another course of calomel and podophyllin; or in place of the latter iridin, gr. 1-6, may be given hourly for four hours. If the stools are markedly offensive and clay-colored add bilein, gr. 1-12, to every other dose. The effect is immediately noticeable.

In a few cases hyperacidity is marked; here calomel and soda (aa. gr. 1-4) acts rapidly. Should the condition persist, a few doses of "neutral cordial" will promptly prove corrective.

It should not be forgotten that in all these cases more or less local congestion exists; atropine is our best remedy for localized congestion, bringing, as it does, the blood to the surface. Moreover, this drug stops the excessive secretion of mucus—another desirable feature. It is always well to give fairly full doses of atropine *at once* when the skin is cold and pale; cactin and brucine (aa. gr. 1-67) will perhaps prove the best subsequent stimulants.

If the disease has progressed and weakness is marked, nuclein is strongly indicated; six to eight drops should be given under the tongue thrice daily. It is in these cases, too, that rectal injections of beef juice and starch water prove so valuable.

In those cases where the system has been deprived of large amounts of serum, eneclysis is imperative, and here decinormal salt solution with two drams of prepared blood to the pint proves especially very valuable.

It is well in all well-marked cases to give thin, clear beef- or chicken-bouillon for the first day or two after normal conditions are restored, returning to milk very gradually.

GEORGE H. CANDLER.

Chicago, Ill.

[The preceding article is reprinted from Dr. Candler's excellent little book, "The Every-day Diseases of Children." This article is peculiarly timely and that is the reason why we give it space now, but the whole book is full of the most practical and helpful matter and any up-to-date doctor will find it helpful. During the summer months, when the little ones are so prone to illness, a book of this kind is of special value. The price of the book is \$1.00. It can be obtained from the publishers, The Clinic Publishing Company.—ED.

DANGER TO DOCTORS

The writer remembers seeing, in his boyhood, *The Police Gazette* once. There was a picture of a doctor in his overcoat and silk-hat, with a woman in his arms, just turning to put her in bed. A man, her husband, enters the door, and seeing the position of the parties, whips out a revolver and shoots the doctor dead.

The doctor had been sent for to see the sick woman and had found her alone and unconscious on the floor. He at once addressed himself to placing her in bed. The husband who had been absent and did not know of his wife's being ill returned unexpectedly, with the tragic result related. This is not alone an instance of the danger to which doctors are subject but also of the danger of men being always armed for committing murder. If that man had not been so armed, thirty seconds would have been sufficient to have cleared up the matter. The picture made a lasting impression on me, and it is a wonder that I ever studied medicine. Contagious diseases, bad weather, night rides and highwaymen do not seem to be the greatest dangers with which doctors have to contend, but it is women—designing, malicious women, disgraced,

about to be disgraced, or else desiring to be.

One of Detroit's reputable doctors recently had an experience enough to make one shudder. He was called, once, to see a woman he had never met before. He found her suffering with a slight cold for which he prescribed and left. A week later she was taken to the hospital suffering from an abortion. Death imminent, the last sacrament having been administered, the prosecuting attorney and his stenographer being present, she made a dying declaration that this doctor had committed an abortion on her. She did not die. A month later the case came to trial and instead of her antemortem statement the woman herself was on the stand. On severe cross examination she admitted that the doctor knew nothing at all about her condition nor had he committed an abortion on her. She said she thought that she would be sent to prison if she did not blame someone else for the abortion.

We should have ample laws making it a crime to solicit an abortion and better to protect physicians from blackmail. Surely the crime is as great as to solicit or offer a bribe. It seems customary among women who have abortions performed upon themselves, when pressed for an answer, to accuse some doctor who did not do it, and more often the one who refused to do it.

Dr. Leo Danziger, of Cincinnati, born 1871, graduate of Medical College of Ohio 1892, member of the Cincinnati Academy of Medicine and the Ohio State Medical Society, was shot and killed while at the bedside of a patient recently. The patient was a young girl fourteen years of age. A criminal abortion had been performed on her and the doctor was called in and found her in a critical condition. The girl had been brought to Cincinnati from West Virginia by her uncle, who was with her. He was extremely anxious about the girl and had words with the doctor about his treatment. He had asked other doctors to supersede him in the treatment but they had refused to do so. The extreme anxiety of the uncle was explained by developments

which proved that he was the author of the girl's trouble. This was evidently known to the doctor, and either to put him out of the way and hide his crime, or from some words, the hot-headed mountaineer whipped out his ever-ready weapon and shot him.

E. S. MCKEE.

Cincinnati, O.

"PROFOUND" CRITICISM FROM A NIHILIST

DEAR DOCTOR ABBOTT:

I wrote you some days ago asking about the quantity of cactin in your tablets. I did this not because I had any intention of using the tablet but simply because I wished to be correct. A doctor reported me a fatality in which he stated that your tablet contained one-sixth of a grain of cactin, and it occurred to me that this could not be correct. Of course it should have been one sixty-seventh of a grain.

I am not especially interested in alkaloidal products or in THE AMERICAN JOURNAL OF CLINICAL MEDICINE. I meet entirely too many physicians who are so thoroughly dyed-in-the-wool givers of alkaloids that I have come to the conclusion that a Christian scientist or an old-school homeopath is a mild individual in comparison to a long-time reader of the old ALKALOIDAL CLINIC and of the present CLINICAL MEDICINE. They are all enthusiasts, they are all absolutely sure, and they all regard with mild contempt the man who has not learned the great truths which were expounded in THE ALKALOIDAL CLINIC.

I wish to thank you for the very courteous reply to my note, but I am sorry that you sent the samples. You know as well as I do that "results" go for very little when obtained by a country doctor like myself; there never was a man engaged in the practice of medicine and who did the most outlandish things but who boosted himself with the idea that he was "getting results." Instead of results being due to the drugs which he gave or to the things which he did, they were due to the *vis medicatrix naturae*, or the other fact "that sooner or

later all diseases end or get well as God Almighty pleases." I told you on a former occasion that I had no desire to measure lances with a man who wields a pen as fertile and facile as you do, but all attempts to interest me in CLINICAL MEDICINE are sure to be just as futile as were efforts to interest me in THE ALKALOIDAL CLINIC.

[This letter (signature omitted) comes from a man who stands high in the counsels of the profession in his state; he is a graduate of several medical institutions and has spent several years in study abroad. While rating himself as a "country doctor," he is surgeon for several railroads and other corporations. I simply state these facts that you may put a proper estimate upon the value of his arguments, understanding their source—for we do not feel free to use his name on account of his unwillingness to "measure lances" with us. Moreover, not understanding these facts you might (judging again by his arguments) make the mistake of classing him with ordinary "cross-roads" doctors who haven't advanced (?) so far that they can look upon "results" with indifference. Thank God for that!

I am glad that the doctor admits that the long-time readers of CLINICAL MEDICINE are "all enthusiasts." Now there is a reason for all things. Why are they enthusiasts? It would seem that being presented with a phenomenon which he did not understand the truly scientific man, such as we believe this doctor to be, would endeavor to solve the enigma. To assume that we have "hypnotized" some 40,000 or 50,000 men is drawing it a little strong. Isn't it really more rational to believe that we have helped them, a little at least, and that this is the explanation for their warm affection for CLINICAL MEDICINE and what it stands for?

The rational thing to do, instead of pooh-poohing and decrying something which you refuse to consider at all is to give a little time and careful thought to investigating it in practice, just as I presume you did antitoxin when it came out, or as you are probably doing now with opsonins. You would find that we are hammering away,

all the time, at certain fundamental and eminently practical facts—and that these facts are taking root in the consciousness of the profession. They *do* help men to get results. There's no guesswork about it.

As for "results" going "for very little when obtained by a country doctor." My dear Doctor, do you appreciate how absurd that statement is? Why is it that the country doctors are thronging the post-graduate schools, attending the medical societies, buying books and subscribing for medical journals? Because they know all this helps to get "results." Any man who believes that all this is vain and useless and that only the "*vis medicatrix naturae*" or the surgeon's knife can offer any relief from human suffering has no business in our profession. He should get out at once—or go over to Christian science, being a long ways nearer to it than we are.

The trouble with men like our critic is, that having imbibed a little of German scholarship and a good deal of the superciliousness of their circumscribed knowledge, they condemn, in their ignorance, many things which might be of service to them but which they are too high and mighty even to look into. We *challenge* this man to investigate the active-principle methods.—ED.]

A CRITICISM OF DR. REBER'S PAPER BY SOLLMANN

In *The Journal of the American Medical Association* for May 9 Dr. Sollmann, a member of the Council of Chemistry and Pharmacy, admits that he endeavored unsuccessfully to suppress Dr. Reber's paper on "Hyoscine and Scopolamine" (which is discussed in our editorial pages of this issue), and prevent its publication in that journal. Nobody is surprised at this admission. The inexplicable thing is how Simmons ever permitted the papers to see the light. Of the merits of Dr. Sollmann's attempt to discredit Dr. Reber's paper the reader may judge by the following item: "The problem which Reber tries to investigate is a strictly chemical one." Further along, speaking of the identity of scopol-

amine and hyoscine, Dr. Sollmann says: "I have not myself done any work on the subject."

Dr. Sollmann's attempted reply does not in any manner meet the evidence adduced by Dr. Reber. In fact, it only goes to confirm the impression made on us by Reber's paper, that the latter was a bomb-shell thrown into the camp of the enemy. Dr. Sollmann meets the difficulty by assuming that Merck & Company did not tell the truth as to the source of the hyoscine supplied to Dr. Reber, that their statements were unworthy of credence and their goods of confidence, and that when Dr. Reber said he used equivalent quantities of the two solutions, he did not. In fact, Dr. Sollmann's evident state of mind while inditing this attempted reply may be summed up in the one word, consternation.

WE SHALL KEEP OPEN HOUSE!

During the meeting of the A. M. A. in Chicago, June 2 to 5—and after—we shall keep "open house." Every reader of *CLINICAL MEDICINE* who may be in attendance upon that great meeting simply *must* "make our house their home." We are now in our splendid new building. While we are not as nicely fixed as we shall be a few weeks from now, we are proud of our quarters and want to share our pride with our friends. Come, and bring along your friends!

SUMMER-TIME REMINDERS

Now is the time to be making preparations for the summer campaign. Get ready. Lay in a stock of the remedies you are most likely to need. Read up on the diseases you may be called upon to treat. Most important, put away in your cranium these elemental principles which mean so much in the treatment of *all* disease, and which are especially worthy of emphasis in the summer season—"clean out, clean up and keep clean."

But here are a few things which it may be worth your while to keep in mind.

Remember that the digestive tract is the *fons et origo* of 99 percent of the diseases

peculiar to the summer months. Advise simple, easily digested foods; forbid all kinds of "stuffing" and let your patrons understand that an overfed baby may be a dead baby.

Remember that the bowels should be carefully attended to. Both constipation and diarrhea are danger signals, especially with infants.

Remember that the ideal laxative for the summer months is the saline, especially in effervescent form. Not only does it act quickly, getting rid of toxic waste in the minimum of time, but it is refrigerant—peculiarly so for the summer time.

Remember that an infant with foul-smelling stool responds quickly to 1-10 grain calomel, and with aromatics they veritably "cry for it."

Remember that the best way to give salines to the little ones is in the form of lemonade. Use the effervescent preparation and sweeten to taste.

Remember that you should never "tie up" the bowels when there is a foul-smelling stool, even if you have a case of diarrhea. First get busy with your calomel (four or five doses, 1-6 grain) at half-hour intervals, followed by the saline. Then "sedate" with your narcotic, using just enough. The "chlorodyne" does the work.

Remember that the green, acid stool is a sign of intestinal fermentation. After the cleaning out use a simple alkali, as provided in the "neutral-cordial" combination—an old and valuable eclectic preparation.

Remember that an attack of "colic" may not necessarily be due to "green apples." In a baby, clean out the lower bowel with a warm-water enema, administer a quickly and easily acting laxative and give a granule or two of Waugh's anodyne. This treatment will turn a cry into a smile. If the "colic" continues, look for something more serious—possibly the trouble may be intussusception.

Remember that many an attack of "colic" is really the beginning of an appendicitis. Therefore, examine every case. If the symptoms point toward appendicitis, administer small repeated doses of hyoscyamine

and strychnine arsenate, adding glonoin if there are signs of shock. If improvement is not prompt, get ready for an operation.

Remember that the "colic" may be due to gallstones. Use the remedies just advised and then prepare to *cure* with sodium succinate.

Remember that for most forms of cramping intestinal pain the "chlorodyne" granule does the work nicely.

Remember that a baby that cries a good deal may need no medicine—just be hungry. Have the baby weighed every week and direct the parents to report the results to you.

Remember that for restlessness and irritability of young children Candler's calmative is the indicated remedy.

Remember that the sulphocarbonates come into play in practically all the summer ailments, whether the patient be young or old. If the stool is foul, "clean out" and then give the intestinal antiseptic.

Remember that in the feeble digestion, associated with the relaxation of the hot months, very frequently a few drops of hydrochloric acid help to straighten things out.

Remember that "cleanliness is next to godliness"—and that it's a life-preserver in the summer.

Remember that a large share of the typhoid fever is caused by the use of infected milk. In a part of Chicago *right now* quite an extensive epidemic has been traced to a single dairyman and a single farm.

Remember that flies are a "common carrier" of disease-germs. Keep them out of the house. Tell your patients if they want to save on the doctor's bill they must provide screens.

Remember that alcohol is worse than useless at any time and that in the summer alcoholic drinks are positively harmful, no matter how seductively cool they may be.

Remember that the doctor should take an active part in the warfare against the saloon that is now being so actively waged. No man should know of its dangers more than he.

Remember that tainted food may cause ptomain poisoning. In any case of sudden and severe illness, with diarrhea, vomiting and severe physical depression, be on the lookout for bad meat, cheese, fish, etc.

Remember that the treatment for ptomain poisoning is to unload the bowel with enemas, as quickly as possible, the stomach with the tube and the upper bowel with calomel and salines. Give glonoin on the tongue, atropine and strychnine hypodermically, "to effect," apply warmth to the extremities and support the heart with digitalin. As soon as the stomach will retain it, commence with the sulphocarbonates.

Remember that there is a difference between sunstroke and heat-exhaustion. In the former there is high fever, even to 107° and 108°F., a full, bounding pulse, congested face and eyes; in the latter there is less elevation of temperature (which may be subnormal), the surface is cold, pulse feeble and thready, great physical depression. In the former reduce the temperature by cold baths with friction, using the defervescent compound internally; in the latter, stimulate, using glonoin, strychnine arsenate and hyoscyamine, the last two hypodermically if an emergency exists. Apply heat to the body.

Remember that this being the summer time it is also the rest season and that you should hie you away to seashore, lakes or mountains and fish, play and rest.

Remember, too, that this is a good time to drop in and see us. We are now in our new home—and it's a dandy.

Remember that the A. M. A. meets in Chicago June 2, and that this is your opportunity to make us that long-promised visit. Don't miss it!

Remember also that with the leisure from work comes the opportunity to "post up" on the things you promised yourself to investigate, when you "had time."

Remember that there is no time like the present to lay in a stock of the books which will help in your everyday work—and that for this purpose there are none like "our kind"—those which teach alkaloidal therapy.

Remember that we would appreciate an article from your pen upon some summer disease for publication in the July or August numbers of this journal. Let us make those two numbers just as helpful as we possibly can. It's your journal; you share the responsibility for the degree of its helpfulness with us. Will you sit down *now* and write us your own experience, about the kinks and twists that have helped in your own practice?

Brethren, help us to make CLINICAL MEDICINE better! Do your share. Will you? We want your help—all you can give us, along every line. Help us by paying up your subscription. Why not a couple of years in advance? Send us \$5.00 and we'll put your subscription down for *three years*—provided you *act at once*. Help us in the fight for a truer therapy, to resist the forces which are using every effort to overwhelm us. We stand for *you*, brother doctor, will you stand with us?

W. C. ABBOTT.

Chicago, Ill.

STICK TO THE HORSE

Regarding the items which have appeared about automobiles, may I add my experience. I have tried both the horse and the auto, and from my trials and tribulations with a new Maxwell runabout I would say to every physician who does not want nervous prostration, stick to the horse by all means—unless he can hire an expert machinist and chauffeur to look after his machine. Too often we hide our failures and we hear nothing but the good side of the auto. If we can hear of some of the failures it may save a brother physician much vexation, loss of time, and incidentally a large hole in a slowly increasing bank account.

A word of advice to one who does buy a machine. Be sure that printed agreements in catalogues are not worthless. Have your agreements regarding repairs, etc., written out and signed by the one from whom you buy your machine.

J. WILFORD ALLEN.
New York, N. Y.



CLINICAL · MEDICINE POST-GRADUATE SCHOOL *of* THERAPEUTICS

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PART I.—LESSON SIX

CLASSIFICATION AND THERAPEUTIC PRINCIPLES

The work thus far covered in the Post-graduate Course has been introductory—simply leading up to our main study, which will be that of remedies as applied to the treatment of disease. We shall endeavor to approach this study from an angle somewhat different from that usually employed.

We wish to group our remedies and consider them together *from the standpoint of employment*; or to put it somewhat different, we wish to make the *things to be accomplished*, the disease-indications, the basis of our future work.

Now, the question naturally arises, How can we so subdivide or classify these disease-indications that we can go about the matter rationally? We can think of no simpler and more direct method than to adopt as our classification the "therapeutic principles" so familiar to the readers of CLINICAL MED'CINE.

We shall, accordingly, subdivide all of therapeutic practice under the following heads:

1. Elimination.
2. Nutritional balance.
3. Asepsis, local and general.
4. Circulatory equilibrium.
5. Innervation.

At first thought you may say that all of medical practice can not be covered under these heads, and technically you probably are correct. But from a practical point of view we believe that the ground is very fairly covered. Think a moment and see if this is not the case. In every case ask yourself these questions: Are my patient's eliminative organs working properly? Is he receiving proper food, digesting it well, absorbing and using it? Is there any infection, past or present, local or general, which I should consider? Are the circulatory organs functioning properly? Is the nervous system sound?

We lay it down, therefore, as a fundamental consideration *in every case which you are called upon to treat*, that you take thought of these five points. Go over them on your fingers if you prefer and apply them to the case in hand. Never let them slip out of your consciousness. We shall hammer away, and keep on hammering, at these things.

ELIMINATION

We begin with elimination, for this is the "corner stone" of successful therapy. As you know, elimination goes on through

the bowels, kidney, lung and skin. We shall commence our study of disease-indications in that order. Commencing, therefore, with next month's lesson we shall begin the study of remedies acting upon the bowels, both to increase and decrease its activity. But first let us outline certain general considerations.

The Significance of Excretion.—Stewart in his "Manual of Physiology," says: "In a body which is neither increasing nor diminishing in weight the output must exactly balance the income, and all that enters the body must sooner or later, in however changed a form, escape from it again. In the expired air, the urine, the secretions of the skin and the feces by far the greater part of the waste-products is eliminated. Thus the carbon of the absorbed solids of the food is chiefly given off as carbonic acid by the lungs; the hydrogen as water by the kidneys, lungs and skin, along with the unchanged water of the food; the nitrogen as urea by the kidneys. The feces represent chiefly unabsorbed portions of the food. A small and variable contribution is that of the expectorated matter and the secretions of the nasal mucous membrane and lachrymal glands. Still smaller and still more variable is the loss in the form of dead epidermic scales, hairs and nails. The discharges from the generative organs are to be considered as excretions, with reference to the parent organism, and so is the milk and even the fetus itself with respect to the mother."

We have for a long time been familiar with the gravity of imperfect nutrition, but are not equally intimate with the still graver subjects of defective excretion and the evil effects of imperfect elimination. It is not merely that life soon becomes extinct if the different excretory organs of the body are not carried out—a method of destroying life, much more rapid in its action than the withholding of ingesta—but it is also the more chronic action of imperfect elimination which is fraught with grave issues.

Egestion and Ingestion.—The importance of the functions of egestion as com-

pared with those of ingestion was insisted upon by Marshall Hall in 1842. The system is soon poisoned when it cannot get rid of its own carbonic acid. The excreta of the urine are powerful nerve-poisons, causing coma and convulsions, while bile is equally destructive to life, in large quantities. It would appear, indeed, that the assimilation of food is accompanied or followed by the production of principles of a preeminently destructive character, either as injurious products of the food taken when split up, or as waste-matters, the result of histolysis. Very grave, indeed, are the questions relating to retrograde metamorphosis within the organism. Especially is this the case with nitrogenized principles. These nitrogenized matters do not merely go toward tissue-formation and then, by a process of oxidation, pass from one form of histolytic product to another. They do not break up in tissue-destruction into creatin, creatinin, tyrosin and other early products of tissue-decay and then pass on into uric acid and urea merely; each form being, in large amount, a dangerous poison. They also form within the animal organism fermentations which exercise no unimportant function.

Digestive Principles.—Pepsin, so powerful a ferment in the production of the digestion of albuminous matter, is a secretion, and in so far an excretion of the stomach by means of its follicles. Ptyalin is the ferment of saliva, very effective in the conversion of starch into sugar. Pancreatin is another albuminous ferment, formed in the pancreas, also possessing marked power as a digestive agent. These different products are in so far excrementitious, that they are thrown out of one part of the system, and yet they are most effective in promoting digestion by their action upon the material which is furnished as food. These excretions are valuable digestives and fermentations.

The salivary, the gastric, and the pancreatic fluids all contain an animal principle closely allied to albumin; but this principle seems to be in a state of change or of incipient decomposition, and it is not im-

probable that while this very condition renders the albuminous matter useful in promoting the solution of the aliment it renders it unfit to be retained within the circulating current.

There are also albuminous ferments scattered through the body which cause, it is believed, the changes which give us our body-heat. The glycogen stored up in our livers and there converted into sugar, is broken up into lactic acid, and this acid, uniting with the soda of the blood, is gradually oxidized. The oxidation of the lactic acid of the lactate of sodium causes our body-heat. The production of waste-matters in excess by the action of these ferments, when overactive, is a matter just coming within the range of our physiological vision. There are all of the indications enough to give us grounds for good expectations from it.

Along the gastrointestinal canal there are established a series of excrementitious activities resulting in the production of numerous albuminous products which are also recrementitious, and which are very useful in the elaboration of our food. Though varied, they possess much action in common. That is, along the digestive tract the primitive tegument has undergone such modifications as to excrete, or secrete, a series of products which fulfill no unimportant function in the process of assimilation. And yet these excretory organs give off other products when the system is charged with them; products too far advanced to possess any nutritive power, and being simply active poisons.

In addition to its other functions the intestine, as is well known, eliminates a variety of substances from the body-fluids. It thus eliminates in the form of organic salts phosphorus, iron, calcium, and so on. To a less extent it also excretes nitrogenous and fatty, or fat-like, bodies.

Intestinal Autointoxication.—Bouchard and his pupils promulgated the doctrine of intestinal autointoxication. It is well known that the intestine is the only internal organ in which from the day after birth onward bacterial decomposition takes place

continuously without the body suffering any necessary harm. The chemical processes that occur in the decomposition of the chyme consist in fermentation of the carbohydrates, putrefaction of the protein, and conversion of the fats into the lower fatty acids. Of these the last is of least importance.

Fermentation of carbohydrates takes place normally, both in the lower part of the small intestine and in the colon. *Putrefaction of protein*, on the other hand, occurs exclusively in the large intestine. The ileocecal valve forms a sharp line of demarcation, above which putrefaction of protein never occurs, except under pathologic conditions. In the cecum and ascending colon, which are the sites of most active decomposition, both fermentation and putrefaction take place together; the latter afterwards outruns the former, to decrease again in the last portion of the colon, where the feces become inspissated. In correspondence with this it follows that the fecal bacteria which flourish abundantly in the cecum gradually diminish in numbers further down.

The *products of fermentation* consist of gases, volatile fatty acids and lactic acid. They are for the most part absorbed by the intestinal wall. The gases are excreted again with the air expired by the lungs. The fatty acids are either oxidized and expired or eliminated unchanged in the urine. The fermentation-products that are not absorbed are excreted either mixed with the feces or as flatus. *Putrefaction of protein* produces ammonia, sulphureted hydrogen and other gases, and also a number of characteristic bodies, such as aromatic oxy-acids, phenol, indol and skatol. These are also absorbed by the intestinal wall. The gases are expired. The other substances are either excreted in the urine as compounds of sulphuric or glycuronic acid or to a variable extent remain in the feces.

Results of Autointoxication.—Keller has suggested *acid intoxication from the intestines* as a cause of the extreme wasting of infants with diarrhea and vomiting.

Diarrhea is sometimes associated with an increase of intestinal decomposition.

Bouchard and Hanot regarded the increased size of the liver, which can be frequently demonstrated in conditions of chronic dyspepsia, as a consequence of intestinal intoxication. In this they rely upon experiments made upon animals by Boix, who claims to have produced *cirrhosis of the liver* by administering for a prolonged period food containing acetic acid and butyric acid.

Of all the blood-diseases *chlorosis* and certain forms of pernicious *anemia* are closely related to decomposition in the intestines. As is well known, chlorosis is frequently associated with a tendency to constipation, and this symptom—or, rather, the hypothetical decomposition-processes which accompany it—is, according to many, the fundamental cause of the disease.

The clinical coincidence of gastrointestinal troubles and *skin eruptions* must also be admitted.

Most of the symptoms which clearly result from the effects of intestinal decomposition are displayed by the *nervous system*. They are of the most varied kind. At one end of the series there is simple headache; at the other coma, convulsions and collapse. The more usual forms may be considered under the headings: first, the general phenomena observed in cases of severe constipation; second, tetany; third, epilepsy or eclampsia; fourth, psychoses.

The general phenomena observed in cases of severe constipation include the nervous symptoms seen in chronic, habitual constipation: feelings of being out of sorts, lassitude, headache, giddiness, neuralgia, ill-humor, and so on. Decomposition in the stomach is probably the most common cause of tetany. Epilepsy and eclamptic conditions have sometimes been associated with marked acetonuria. On this ground Von Jaksch and Lorenz, in particular, have suggested intestinal autointoxication as their cause. Of late years in France there has been considerable discussion upon the connection between intestinal decomposition and psychoses. Out of these has crystallized the now generally accepted doctrine of "visceral psychoses."

Causes of Constipation.—One way of overcoming intestinal autointoxication is to overcome constipation, and constipation, as Thompson says, when not dependent upon some gynecological ailment, is generally due either to deficient action of the small intestine or to deficient action of some part of the large intestine. Deficient action on the part of the small intestine is due to two causes: first, deficient secretion; second, want of innervation, or want of muscular action.

Constipation dependent upon deficient secretion is quite distinct from that caused by want of muscular action. But in many cases both causes will be operating simultaneously.

Deficient secretion in the small intestine may be caused by some disturbance of the liver. Constipation, therefore, may date from the time when the patient suffered from some severe form of fever in which the liver was prominently involved, such as the bilious remittent; or it may follow an attack of tropical diarrhea, which is almost invariably accompanied by marked hepatic disturbance. In such cases the patient does not have an extraordinary fecal accumulation and impaction, but there is, instead, a sluggish action of the bowels, and he is usually obliged to take medicine once in four or five days to bring about a movement; and when it does occur, the evacuation is moderate and quite dry. This kind of constipation is quite common in the Southern States as a consequence of the diarrhea which prevails in that latitude; and it is also frequently seen in the Northern States as the result of malarial poisoning.

The symptoms are extremely negative, except the constipation. The one symptom which perhaps gives the patient most discomfort is the tendency to a dull, indefinite headache. In a majority of cases this is located in the posterior part of the head and is rather an uncomfortable sensation than a real pain, and it is best relieved by something which promotes a free discharge of bile. The tongue usually is small, not large and flabby, generally a little reddened along the edges and tip, and the secretions

of the mouth are commonly viscid. The condition of the mouth is the indication of the condition along the entire alimentary canal. We have, therefore, evidence of the presence of only a moderate amount of secretion in the intestinal tube, and our treatment should be regulated accordingly.

Treatment of Constipation.—If, for the relief of this condition, mild cathartics be administered, the condition of the case will be aggravated, because the temporary stimulus afforded by them, however mild, is immediately overcome by the tendency to deficient secretion. Active purgation produces a much more injurious effect than mild laxatives. If resort be had to the use of medicines which have been recommended to stimulate nerve-action, not much benefit will be obtained.

Action of Water.—What should be present in the intestine is a small increase of lubricating substances, as it were, and to that end altogether the best results have been obtained by causing the patient to take a great deal more water than is his usual custom. Let him take, upon rising in the morning, two tumblersfuls of water. As a rule, those who drink considerable water are not troubled with constipation. The laxative action of the water can be insured by the addition of some mild saline, like the bicarbonate of sodium, or even common salt, and the reason why such an effect is produced is that the mixture formed by the union of some saline with water does not readily pass through the mucous membrane, and so into the general system.

Action of Salines.—The theory now generally accepted with regard to the *action of salines* is that they are not absorbed and that they prevent the water with which they are combined from being absorbed; hence the water, by exciting the peristaltic action of the bowel, brings about a movement to discharge it, and with that the other contents of the intestinal tube. There is considerable to lend support to this view. It is not necessary to give large doses of saline cathartics, as a half a dram of the sulphate of magnesium dissolved in a pint of water commonly operates very nicely. The best

form of such a laxative is an effervescent magnesium sulphate slightly sweetened. A very small dose of quinine or arsenic, taken with the saline laxative in the morning, rarely fails to produce all the laxative effect required in every form of deficient secretion from the bowels; for instance, in the constipation following fever, when it is desired to obtain a free alvine evacuation. It is well to tell the patients that they will not, perhaps, see much effect for several days; but if they can be induced to persist in the daily use of large quantities of water, a great deal of benefit will most certainly follow.

Fruit in Constipation.—There is a supposition on the part of the laity that certain fruits are laxatives, and that is probably true to a limited extent. Oranges may be eaten with benefit, but it usually requires ten or twelve to overcome an obstinate constipation, a fact which renders the remedy inapplicable in this climate. In the warmer climates, however, the worst forms of constipation which appear can be overcome by oranges alone; and the more juicy they are the better, from the fact that the citric acid which they contain has a tendency to produce a catarrh of the intestines, if taken in excess. Figs are a rather dangerous laxative, for they may obstruct the intestines; there is not much danger, however, in this direction, if they are taken with a large quantity of water. It will be found necessary to use about double the amount of water with figs that will be required with any other laxative fruit. The fruits of this climate are very uncertain in their action. The action of apples is very good, but very many persons are unable to eat them in sufficient quantity to produce any effect upon the bowels, although they may at the same time take a large quantity of water. All along it will be found that water is one of the most important agents to be employed in overcoming deficient secretion in the intestine.

Flatulent Constipation.—If flatulence resulting from decomposition of the intestinal secretions accompanies the constipation, recourse may be had through the intestinal

antiseptic tablets, composed of the sulpho-carbonates of lime, soda and zinc, and to this may be added strychnine if there is evidence of deficient innervation in the intestines, or what perhaps is better still, the anticonstipation pills, two or three of which may be taken after each meal.

Deficient Innervation.—How are we to judge that the leading element in the case is deficient innervation, especially with reference to the small intestine? As a rule, deficient innervation is an accompaniment of the constipation that troubles persons with sedentary habits of life. Ordinarily it attends the constipation present in elderly persons, and such constipation also occurs among those whose occupation causes them to maintain positions in which the abdominal muscles are to a very great extent motionless, such as shoemakers, tailors, etc. There is also a tendency to headache, and there is a great deficiency in the excretion of the coloring matter of the bile, as might be expected, for the secretory action of the intestines is as much interfered with as is the muscular action. Hence this class of patients are usually of a dull, shallow color; there is a tendency to greasy accumulations upon the surface; the entire movements are sluggish, and there is usually reduced frequency in the pulse.

The Treatment.—Now, with regard to the treatment for this class of cases. In the first place, the habits of the patient have a tendency to keep up the constipation, but the means to be employed for overcoming it are different from those resorted to in the other class. As a rule these patients do not require much water, because it weakens their digestive powers, and they will very soon complain of loss of appetite, heaviness in the head, etc., and it does not excite much peristaltic action of the bowels. At all events, it is not nearly so likely to increase the peristaltic action as in the class of cases in which the deficiency of secretion in the intestinal canal is the leading element. What should be done here is to arouse the peristaltic action of the bowels and at the same time increase the general innervation of the secretory apparatus.

To do this, the best means that can be employed, if the patient is permitted to remain at his occupation, is water applied externally, with some tonic to the intestinal canal given internally, and nothing is better than the anticonstipation granules. The only way in which they can derive benefit from the internal use of water is to send them away from their business to a mineral spring, then having a change of occupation, the water taken internally will give them much benefit. But most patients will be unable to make this change, and for these water may be used externally with great advantage. The patient should be directed to take a sitz-bath every night, in water as cold as the patient can bear it and have a good reaction afterwards. In a great many cases this simple measure will work wonders, just as it will do in cases of deficient innervation of the large intestine.

Another method of using water externally, is, on rising in the morning to sponge the spine and abdomen with cold salt water, made about as irritant as possible. In other cases, great benefit will be derived by giving the abdomen a local shower-bath, and that can be done by dashing the water against the abdomen, while the patient is in the standing position. This brings about an action in the bowels, the same as a cold hand upon the abdomen causes contraction of the uterus; that is, it is through the sympathy of the nerves of the surface with the visera underlying them.

In this class of cases strychnine has proved itself a very efficient remedy and it may be administered in combination with any other drug. It will increase the efficacy of small doses of the resinous cathartics, which are irritant and stimulant; hence small doses of aloin with strychnine and atropine as we find it in well-known anticonstipation granules, may be given with much more benefit than when it is administered separately.

The application of the faradic current, one pole of the battery placed over the spine and the other passed up and down over the abdominal walls, will, in many cases, be found beneficial.

What is known as the health-lift will prove advantageous in certain cases, and the reason is that it brings into action all the abdominal muscles, especially the recti, and that action is brought to act directly upon the sluggish intestines. When any lesion of the bowel is present, the health-lift cannot be employed.

In the constipation dependent upon diabetes, due to total deficiency of secretion into the intestinal tube, death may result as the consequence of this condition which occurs in connection with this disease.

When giving the anticonstipation granules, they should be given in doses sufficient to cause one evacuation daily and no more. As the habit becomes established the dose may be lessened, until it can be finally stopped altogether. Experience shows that the best results are obtained by dividing the daily dose into three, and by this means a tonic instead of a stimulant effect is produced. Begin with six granules before each meal. If this is not enough, give nine or twelve. Just as soon as the least overaction is produced, lessen the dose to four, three, two or one, as each case demands; the rule being to lessen the dose if the second evacuation occurs in one day.

When the dose has been stationary for one week, with no overaction, lessen the dose again; and so every week, cutting the granules in two, four or eight if necessary. When they can no longer be reduced, drop the mid-day dose; a week later drop the evening dose, but continue the morning dose for a week longer to clinch the cure. It is seldom necessary to reduce more than to the one granule, but if it is, they can be easily cut with a penknife.

Sometimes the atropine causes dilation of the pupils, etc., to an unpleasant degree, and it is then advisable to add one or two granules of physostigmine, gr. 1-250, to each dose. Emetine, gr. 1-67, or lobelin, gr. 1-67, may be added for costiveness; podophyllin, gr. 1-12, to act on the liver; euonymin, gr. 1-6, for the upper bowel; or elaterin, gr. 1-20, when there is obstinate constipation at first. For it must not be forgotten that these laxative granules are not intended for cathartics,

but to cure habitual constipation; hence a brisk cathartic may be needed at first to clear away accumulations.

MECHANOTHERAPY

Nature has assigned to every organ and structure in the body a certain purpose of existence or reason for being. This purpose is the part which the organ or structure plays in the sum-total of activities which constitute the life of the body. The share of the organ or structure in the totality of life-manifestation is expressed in its *function*. The connection between the function of an individual organ or structure and the physiological capacity of the whole organism is a twofold one, to-wit, the *sympathetic* control through the nervous system, and the *nutritional* influence through the circulation of the blood. These two means of connection are again intimately related to and dependent upon each other because nutrition through the blood-circulation is controlled by the socalled vasmotor nerves, which belong to the sympathetic nervous system, and the action of all nerve-tissue is dependent on the nutrition of such tissue through the quantity and quality of the blood-current.

The Nature of Function.—Function is exercise of physiological power. The performance of function involves a production of animal heat. This again is dependent upon burning-up, or oxidation, in the functioning organ. Augmented oxidation is equivalent to increased consumption of tissue-elements and calls for a compensatory supply of nutritive material to make up for the loss. Coincidently there is a greater deposit of waste (slack, ashes) in the active part.

What is the practical meaning of these theoretical considerations? If we wish to enhance the functional power of any part, we must be able to increase its blood-supply. If we desire to stimulate the circulation in or nutrition of a part, we must be able to augment its functional capacity. By increasing the circulation in and capacity of a structure, we intensify its metabolism. Oxidation becomes more intense, regeneration of tissues and fluids more rapid. As

a necessary result the lymphatics and absorbents do more work and elimination of waste is more active and copious.

With these physiological considerations firmly fixed in our minds, we are prepared to understand the *rationale* of the several therapeutic methods ordinarily included under the head of *mechanotherapy*. There are seven or perhaps eight of these mechanical methods which typify the physiological conditions and processes above referred to. It will serve our purpose best if we consider them under their proper heads, beginning with the more elementary varieties and concluding with those which require a more or less elaborate equipment and a corresponding amount of skill and experience in the use of the latter.

A mechanotherapeutic method is *manual* if it involves the use of the hand in its application, or *instrumental* if one or more mechanical devices, apparatus or machines are employed.

Swedish Movements

The ordinary exercise of the body in walking, riding, swimming and in the practice of various athletic sports is a hygienic rather than a therapeutic measure. It is necessary for the preservation of health. When we systematize exercise, however, and apply it to the whole body or to any special part according to a well-regulated plan for a well-defined purpose, it becomes a therapeutic method and serves the purpose of restoring rather than preserving health.

Viewed from the standpoint of therapy, this special form of exercise is called *kinesitherapy* (movement cure, Swedish movements). The term "Swedish movements" suggests the country where kinesitherapy has been most assiduously cultivated, and the people who have ever been its staunch supporters.

A Swedish movement is any form of exercise with a fixed duration, direction and purpose. The duration of the exercise is suggested by the tolerance of the part which is involved in the "movement," by the endurance of the patient and by the character

of the effect aimed at. The *direction* of the movement is suggested by the anatomical parts which are to share in the effects produced. The *purpose* is contained in the diagnosis of the case and should be clear in the operator's mind before any manipulations or movements are begun.

There are two general varieties of Swedish movements:

Active Movements, or movements which are performed by the patient by his own will and effort without help or interference. If the patient is told, for instance, to bend the arm and in this way contract his biceps muscle, this movement, if properly performed by the patient, according to the operator's instruction, would be an active movement. A movement of this kind might be applied to one or to any number of the voluntary muscles of the body for the production of some well-defined effect.

Passive Movements may involve one, two or more of the muscles of the body without the cooperation of the patient's will or effort. If the operator, for instance, takes hold of the patient's arm and bends it, the patient neither aiding nor resisting, the movement would be a passive one. Movements of this kind are applicable to muscles of any part of the body.

The character both of an active and a passive movement may be changed by the kind (and amount) of labor involved in performing it. If the operator grasps the patient's arm and bends it, the patient remaining entirely passive in the performance of the movement, the effort of bending the patient's arm will be comparatively slight and easy. If, however, the patient is told to resist by bringing the muscles of his arm into play, extending the arm while the operator tries to bend it, it is plain that the effort of bending will be more difficult, the amount of labor involved being in proportion to the amount of resistance offered by the patient.

Classification.—This principle of resistance enables us to classify the various active and passive movements as:

Concentric movements, if the patient, in moving certain muscles, resists the efforts

of the operator to *prevent* these movements, or

Excentric (eccentric) movements, if the patient resists the efforts of the operator to *perform* certain movements.

In keeping with the character of the movement we may speak of *flexion, extension or rotation* according as we bend, straighten or turn a certain part.

Physiological Effects.—What is the effect of exaggerated exercise of this kind? The performance of the movement involves labor, labor causes a greater consumption of food-elements in the part concerned, metabolism becomes more rapid and intense, there is a greater production of body-heat in the active region and a greater formation of waste. Exaggerated exercise, therefore, means an exaggeration of all the physiological potencies included in the concept of function. Accordingly, there must be increased and improved nutrition. The structure will eventually improve in its quantity and qualitative tone. There will be what is known as physiological hypertrophy, and, in keeping therewith, greater functional power. The part will hold more blood, the blood will circulate with more vigor, sluggishness of the blood-supply (venous congestion and the local autotoxic condition produced thereby) will be counteracted. The functional power of the part is increased. The part becomes stronger, larger, more active and therefore healthier.

It would take us beyond the scope and power of our lesson to illustrate these physiological considerations in their relation to all the clinical problems in the solution of which the application and performance of Swedish movements would be of practical value. A few illustrations, however, would serve to make the subject-matter clearer and show its intensely practical import.

Abdominal Congestion, more especially stagnation in the portal circulatory system, is one of the most common and most fruitful causes of disease. The number of conditions that are directly traceable to passive hyperemia in the epigastric and right hypochondriac regions is legion. The symptoms of these variable conditions are due

to one of two distinct pathologic states, not infrequently, however, to both. One of these etiologic factors is *pressure* of the practically stagnant venous blood-mass, the other is *suboxidation* and its sequelae.

Increased venous pressure necessitates a corresponding diminution of arterial pressure. As a result, nutrition is depressed. The tissue-elements, particularly the physiological cell-elements of the liver-structure, the glandular elements of the stomach and the muscular fibres of the stomach-wall degenerate, lose their tone and functional quality. In the liver such a condition would cause stagnation and retention of bile and final reabsorption of the bile-elements into the general blood-circulation, poisoning of nerve-centers and production of an endless variety of symptoms, especially of the subjective variety, such as melancholia.

The ancients, in spite of their primitive notions on pathogenesis, knew well that a state of mental depression was usually due to a physical cause and called the condition *melancholia* (*melas*, b'ack; *chole*, bile), or poisoning by stale bile. The latter condition is the direct result of suboxidation in the portal system, the products of katabolism in the liver and in the contiguous territory being carried into the general circulation instead of being gotten rid of through the natural channels of elimination.

A tributary etiological factor is the direct pressure on the numerous ramifications of nerve-tissue situated posteriorly to the stomach and being originally and principally derived from the two splanchnic nerves that—to all intents and purposes—control the so-called vegetative functions of the body. They form that delicately constructed framework of nerve-paths known as the solar plexus. *Pressure on this plexus causes general depression of energy.* A dilated stomach, a torpid liver, sedentary habits and a vicious position of the body (such as the bending forward of the chest and coincident compression of the stomach and liver in persons who work at the desk), constipation and the legion of correlated conditions complete the most common

clinical picture of modern medical practice.

Effect and Technic of Swedish Movements in Abdominal Congestion.—In these conditions the Swedish movements will work wonders, especially if reenforced by other mechanotherapeutic methods to be considered hereafter. Let a patient lie flat on his back with his feet close together and his arms placed close to his body. Tell him to raise the upper parts of his body slowly and gradually to a sitting position and return again to the decubitant position. What takes place while he performs these movements? There is a tremendous effort on the part of the extensor muscles of the legs, the anterior abdominal muscles and the muscles of the anterior chest-wall. In keeping with the additional work of these muscles the latter become hyperemic and a powerful impetus is communicated to their arterial blood-supply. The abdominal muscles become hard as stone and exercise powerful pressure on the underlying abdominal contents.

The operator may exaggerate this form of kinetic treatment. Let him grasp the patient's leg and bend the knee, the patient lying flat on his back. The flexed limb is moved toward the patient's abdomen, slowly and firmly, until a point of extreme flexion of the hip is reached. Thus far the operator has administered a passive movement. When extreme flexion has been accomplished and the limb of the patient is held by the operator in this position, let the patient try to extend slowly and firmly his leg against the resistance offered by the operator. The patient is performing a concentric movement, because, in moving his muscles, he is resisting the operator's efforts to prevent the performance of these movements.

A variation of this method would be the following execution of a concentric movement: Let the patient lie flat on his back. Let him try to raise his leg without bending his knees. This would be an active movement. If the operator places his hands on the patient's legs and resists the patient's attempts to elevate his limbs, the movement would be concentric, and, of course, much

more severe. These movements can be varied in many ways. Let the patient stand erect and gradually bend forward without bending his knees. Let the patient grasp a horizontal bar and gradually pull himself up. In all these movements the abdominal muscles would be very active. The intraabdominal circulation would be stimulated, venous congestion counteracted, metabolism intensified and corrected.

There is no limit to the varieties of Swedish movements to suit the indications of an endless number of clinical conditions. The movements may involve the whole body, a portion of the body or even a small part, as one finger. We may extend, flex or rotate with or without resistance one finger, the hand, the arm, the shoulder, one toe, the foot, the leg, the hip, and divide these movements into any number of subvarieties, as our fancy or purpose may dictate. We may treat the head, the neck, the chest, the back. To force and improve the respiratory movements the operator may, by means of his flat hand, compress one part of the chest-wall, and in this way cause deeper and fuller respiratory movements in the remaining parts. The subject can be elaborated without limitation by the ingenuity and resourcefulness of the operator. The effects produced should be anticipated by the physiological knowledge, diagnostic judgment and individualizing power of the physician, and should be closely adapted to the clinical subject under consideration. The full import of kinesitherapy becomes apparent if combined with other mechanotherapeutic means, especially massage. The latter will be the subject of our next lesson.

POSTGRADUATE COURSES

You ask some comments on the course. I have tried to think of something critical but have failed. One thing that makes me particularly interested in the CLINICAL MEDICINE Postgraduate Course is the fact that I have a very intimate friend now taking the M. R. C. S., L. R. C. P. postgraduate course in London, England. In a letter received from him a few days ago I find the follow-

ing: "They teach here that in such a case as when a young married woman, age 35, comes complaining of chronic pelvic pain after labor, examination showing slight prolapse of the uterus, she is suffering from neurasthenia, and an operation is not necessarily indicated." I replied that he could do as well by giving Buckley's uterine tonic and glycer-magnesium suppositories without going to England to learn it.

Again, in the field of medicine proper he remarks: "In nervous diseases we have Dr. H., and he certainly is fine. Last Thursday for example he presented the following interesting (note!) cases:

- "1. Traumatic ulnar paralysis.
- "2. Peripheral neuritis.
- "3. Rheumatoid arthritis with such marked muscular wasting as to simulate muscular atrophy.
- "4. Progressive muscular atrophy.
- "5. Syringomelia.
- "6. Amyotrophic lateral sclerosis, with bulbar paralysis.

"The first two of these are comparatively simple cases, easily diagnosed and treated. (He mentions no treatment.) The four latter are 'incurable' according to Osler and other 'authorities.' I have treated successfully the first two, not one of the latter four have I encountered in actual practice. If I did I should have recognized them."

My reply to him was that while he might be able to recognize obscure nervous lesions sooner than I, yet I would bet a dollar to a doughnut that I could treat a case of scarlet-fever every bit as well as he, could diagnose typhoid as readily as he, could remove an adherent placenta as dexterously. My opinion is that a carpenter can build a barn as well as a graduate architect (and maybe better), and "building barns" is our specialty as general practitioners.

The ordinary postgraduate course, so far as I can see, lacks system. Cases are viewed more as pathologic specimens than as human beings to be relieved of suffering. One man who obtained the M. R. S. S. said that he employed a "coach" daily in his room for three months, passed the examination, and did clinical work later. I knew of a man

who attributed his failure on the L. R. C. P. & S. (Edin.) examination to the fact that he could not state positively whether the artery of the corpus cavernosum ran above or below the center of that structure.

If a man intends specializing, such a course is to be commended, but for me—no, thanks! I'm satisfied with the CLINICAL MEDICINE Course.

R. W. HALLADAY.

Hurry, Alba., Can.

THE ADVANTAGES OF THE USE OF ACTIVE PRINCIPLES

1. In giving an accurate-measure dose of morphine, pilocarpine, hyoscyamine, etc., we know we are giving just so much, no more and no less; in the galenicals, the active principle may be present in several times the percentage which it is supposed to exist, or it may be entirely absent.

2. Many drugs contain several active principles, coexisting in the crude drug in varying percentage; this will consequently be true of the galenical preparation of these drugs. When two or more active principles coexist different samples of the drug are very apt to differ in physiological action, and may be diametrically opposed to each other in this latter respect. On the other hand, if these several active principles are given separately, or combined as indicated, these objections are overcome.

3. While giving the active principles in minimum doses, frequently repeated *ad effectum*, just the effect desired can be obtained, where with the galenicals it is possible to give an overdose at the first dose, or if the active principles are entirely absent, as is sometimes the case in galenicals, the desired effect would never be obtained, no matter how often the dose were repeated. But you would be very likely to get an undesirable effect from some of the nauseous, noxious substances existing in the galenical preparation.

4. The active principles being free from all inert and antagonistic material, are much more rapid and certain in their effects.

5. Owing to the concentration of the active principles as to bulk, they are very

portable and permit the physician to carry a complete and varied assortment of therapeutic tools with him.

6. The active principles are in a very convenient form for dispensing.

7. They are very reasonable in price, thus helping both doctor and patient.

W. C. WOLVERTON.

Linton, N. D.

[This is an excellent epitome of the advantages of alkaloidal medication. It is "lifted" from one of the examination papers. Now, by the way, we want to ask our students to fire in their questions for our "Question Box." Let them come at once.—ED.]

HYDROTHERAPY IN TYPHOID FEVER FOR THE GENERAL COUNTRY PRACTICIAN

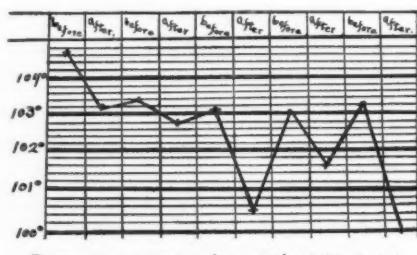
While all will be ready, I think, to admit that the typical Brand bath is the ideal method of applying water in typhoid fever, I am sure that all will also be equally ready to admit that, as a general rule, it is inapplicable in a general country practice; in the first place because the relatives of the patient will object most strenuously, and in the second place because the trained help which is essential to the success of this method is unobtainable in most cases.

I want to outline here a method which I have carried out a number of times and which can be practised in any farm-houses and, with modifications, in any private residence.

I spread two horse-blankets, doubled, or any other suitable padding, on the floor, and cover this with a large piece of oilcloth. Over the oilcloth I spread a sheet wrung out of cold water. I now uncover the patient and lift him onto the sheet, in which I promptly wrap him, administering vigorous massage through it. During the process some member of the family occasionally sprinkles a little cold water upon the sheet from a sprinkling can, and, if sufficient help is available, I have someone help me with the friction in order that it may be more extensive and thorough. I continue this process

for from ten to fifteen minutes, as the case may require.

While thus engaged, someone is arranging the bed and putting hot bottles at the foot and sides. When the pack is finished, I put the patient into the bed, wrapping him in a flannel blanket (no night-gown), arrange the hot bottles around him and give him a drink of hot peptonized milk. He promptly falls asleep.



Temperature-curve under wet-sheet treatment

This process is repeated every three hours as long as the temperature rises to 103°F.

I append a chart which will show the reduction in temperature following the packs in one of my cases.

GEORGE B. LAKE.
Wolcottville, Ind.

COMMENTS ON THE LESSON

We have not received as many queries for our Question Box as we had hoped to have by this time. We give a few elsewhere and again invite you all to participate in this department—not only by questions but by comments on the lesson itself and on the work of others. We wish to make an essential feature of this course the reciprocity, the giving and taking of experiences, the mutual helpfulness, that has characterized the whole journal from its inception.

Significance of Facial Signs.—The six things which may be learned from a study of the face are epitomized by Dr. H. K. Shoemaker, Flat Rock, Ohio, as follows: (1) Condition of brain; (2) condition of sympathetic and spinal nervous system; (3) the presence of certain local diseases; (4) the presence or absence of pain; (5) the condi-

tion of the arterial and venous circulation; (6) the vitality of the patient.

"To these with propriety may be added the psychological data to be learned from the face, i. e., fear, lack of confidence, deception, temperament, etc."

Facial Signs of Cerebral Excitation, Inflammation, Apoplectic Condition.—

The same gentleman gives these as follows: "Facial signs of cerebral excitation: (1) Contracted pupils, eyes bright; (2) flushed cheeks; (3) throbbing of temporal arteries; (4) facial muscles tense, sometimes twitching.

"In acute inflammation the above signs are intensified, and expression of face, by reason of contraction of muscles about eyes and forehead, is more intense, and yet there usually is no response to an ordinary intellectual stimulus.

"Facial signs of apoplectic condition: Eyes dull, expressionless, prominent, bulging; skin puffy; veins dilated."

Other Facial Signs.—These are well given as follows:

"Facial signs of pulmonary disease: Circumscribed redness of one or both cheeks; bright eyes and hurriedly expanding nostrils; sharpness of nostrils.

"Facial signs of abdominal disease: Chronic parenchymatous nephritis; puffy face with pallor.

"Intestinal parasites: White lines about mouth.

"Acute peritonitis: Upper lip raised so as to expose teeth (not constant).

"Cholera morbus, cholera infantum; stage of collapse: Face contracted, hollow cheeks, eyes expressionless, sunken, skin lined.

"Intestinal toxemia: Angles of mouth drawn down, incurring of lower lip; expression of weariness or depression; complexion usually dull, sallow.

"Carcinoma: Straw-colored complexion. Rapid emaciation in patient over forty years is always significant.

"Facial signs of disease of female reproductive organs: Contraction of orbicularis oris."

All these facial signs are significant, but not necessarily diagnostic, and they should serve as "pointers" to be studied in associa-

tion with other signs and symptoms. Of course there are many other facial signs which deserve study. Who will volunteer to write a brief article, one more comprehensive, on this subject? Also something on posture as a sign of disease?

What the Tongue Shows.—Dr. Wm. V. Secker, Evanston, Ill., gives the following answer to this question: "The full, broad, thick tongue is usually an evidence of atony of the digestive tract, especially of the mucous membrane. Give the compound cathartic pill, cascara, calomel and podophyllin granules, and effervescent magnesium sulphate. Emetine, one granule four times daily, acts admirably in these cases.

"The pinched, shrunken tongue indicates a want of functional activity in the digestive apparatus. Give quassia and papain before meals and cascara cathartic and saline laxative in the morning.

"The fissured tongue points to chronic diseases, possibly the kidney and inflammatory. Hot dressings to the lumbar region to decongest. Salithia or sodium benzoate.

"A flabby swollen tongue, covered with a uniform yellow, pasty fur, is indicative of catarrhal gastritis or gastroduodenitis of some standing. Wash out the stomach with sodium chloride and bicarbonate each evening for a week. Give copper arsenite, ten granules before meals.

"A narrow tongue with a deep median fissure, on each side of which is a thick, rough fur, the tip and edges of the tongue being red and denuded, is the typhoid tongue. Clean out bowels with calomel and podophyllin, the saline laxative, then sulphocarbolate of sodium, 5 grains every two hours. Give hydrochloric acid, ten drops three times a day, colonic flushings and aconitine for fever.

While this only covers a "corner" of the subject it is very suggestive and we hope will lead others to take up the subject. Who will volunteer for a comprehensive article upon "The Tongue and its Therapeutic Indications." Something splendid might be written on this subject.

Why Alkaloidal Practice is More Scientific.—"Science is exact knowledge,

and compared on the basis of exactness the active principles are far and away superior to the galenicals. Take a given quantity of a pure active principle: we know exactly its chemical formula, its action on a normal system, its action on diseased system, and its behavior chemically and therapeutically when continued with other active principles. No matter how labelled or how carefully prepared, each sample of a galenical agent must be 'tried out' and the word 'exact' has no place in description of such process. That is succinct and comprehensive."

Palatability.—Dr. E. Burd of Lisbon, Iowa, says: "Palatability is a very important item, especially among children. I do not believe men like nasty-tasting medicines any better than women do, but somehow they are generally left out, and palatability mentioned only as desirable for 'women and children'."

As regards children it might be added that giving disagreeable medicines is often dangerous, since the struggle to administer them often does more harm than good and may even endanger life. If the drug is palatable it is readily taken and there is less antipathy toward drug-therapy, while the influence and popularity of the doctor is increased.

Dr. W. Herrington, Green City, Mo., puts it well, as follows: "Remedies should be palatable, especially with children and women and most men, because we want to produce a certain effect without masking any facial expression. If we give a nasty, nauseous dose the patient will make all manner of facial contortions and possibly leave an expression on the face that will cause us to make a mistake in the physiologic effect. Remedies that are not palatable are liable to cause nausea, and the patient won't take it.

"There are other patients who are not very sick and unless they get a nasty dose the psychical effect is not there. Again it is bad enough to be sick, let alone to be doped with all kind of slops and nasty draughts."

Alkaloids of Ipecac.—Dr. R. W. Halladay, Hurry, Alta., Can., gives an excellent resume: "Emetine is a white crystalline alkaloid, odorless, bitter, comparatively in-

soluble in water, forming unstable salts with acids. In health given in doses of 1-60 to 1-30 grain it causes increased production of saliva, and of respiratory and alimentary mucus. The liver is very slightly stimulated to the increased formation of bile.

"Given in doses of 1-8 to 1-4 grain vomiting is produced, both from its local irritant action upon the gastric mucosa and from its action upon the vomiting center. (This is proved by its acting as an emetic when injected subcutaneously.) More or less nausea, muscular relaxation, free perspiration and a degree of exhaustion necessarily accompany emesis.

"Given in doses of 1-2 to 1 grain dry, a mild cathartic action is brought about. The stools are rather greenish in color. The flow of bile is greatly augmented. Usually one or two green stools are all that result.

"Emetine is used: (1) In respiratory diseases, particularly to liquefy tough sputum in laryngitis and bronchitis, including capillary. (2) In chronic gastric catarrh of alcoholics, in the summer diarrheas and mucous diarrheas of children, emetine (1-67 grain) will modify intestinal secretion. (3) In the dysentery of adults, emetine, gr. 1, will cleanse the bowel through its cathartic action, will greatly augment the secretion of bile, and will alter the character of the intestinal secretions. It is a 'specific' in this disease. (4) Emetine in doses of gr. 1-6 every half hour till nausea is produced is a good remedy for internal hemorrhages."

As pointed out by Dr. W. C. Wolverton, Lanton, N. D., *cephaeline*, the other alkaloid of ipecac, is an exceedingly active emetic, much more so than emetine, which, when pure is only slightly so. The trouble is, that much of the emetine on the market is impure, contaminated with cephaeline.

Application of Heat.—Dr. W. C. Wolverton, Linton, N. D., covers this ground nicely:

"The *Primary Effect of Non-Reactive Applications of Heat* in any form is one of relaxation of the skin and of its component parts, including the blood-vessels, which lose their tonus and collapse. These relaxed blood-vessels will accommodate more blood than in

their naturally firm and elastic condition, and become engorged with blood, without proportional rise in blood-pressure. When the tonus of the blood-vessel is exhausted, and the circular muscles of the arterial coat are completely relaxed, the intravascular blood-pressure becomes less, and heart-action becomes easier, because the volume of blood in active circulation in the interior of the body is diminished. This differs from the *Secondary Effect of Reactive Applications of Cold* in that with the latter, diminution of blood-pressure follows a *centripetal* increase of blood-pressure, which taxes all the vessels from the periphery to the heart, and includes the latter organ in this increasing pressure; while with *nonreactive applications of heat*, the diminution of blood-pressure is *centrifugal* and occurs *primarily*.

The *Continuous Application*, then, is to be preferred where the resisting capacity of the heart-muscle and vessel-walls is doubtful, owing to organic disease of the heart or degenerative changes in the walls of the arteries; or in cases where there is a tendency toward internal congestions, as in all organic diseases of the kidneys.

"The Effects of the *Continuous Applications of Heat* are: (1) Metabolism is made more active, and the heat-output is increased; (2) diaphoresis takes place; (3) the germicidal power of the tissues becomes greater, owing to the increased amount of oxygen brought to the tissues by the increased volume of blood.

Results Following Non-Reactive Applications of Cold.—"The skin, with all its component parts, is made to contract; because of the contraction of the blood-vessels, the blood-mass in the skin is lessened. Under these conditions the nutrition of the skin is poor, and its functions hindered accordingly; the respiratory function and diaphoretic action of the skin are depressed, the result being retention of waste-products, a condition favorable to autointoxication in its various forms, and the formation of excellent culture-media for pathogenic germs. The tendency, under these conditions, is in the direction of retrograde changes, and finally, death of tissue.

"The *cold bath is not a rational treatment of heatstroke*, because it encourages the increase in formation and dissemination of toxins, and hinders their elimination; the pores of the skin are closed, no heat radiates, and toxin-formation in the heated interior is increased."

Another says: "The application of external heat relaxes the surface, blood-vessels and skin and permits the blood from the hyperpyrexial internal organs to flow passively to the surface and through perspiration thus induced to radiate the excessive heat.

"According to Abbott and Waugh the physical treatment is by cold applications (ice) until temperature falls to 105°F. Sedatives such as aconitine or veratrine as indicated, and if perspiration cannot otherwise be produced pilocarpine should be used hypodermically. Elimination will be aided also by veratrine, etc."

Dr. Juettners theory concerning the use of heat instead of cold in treating sunstroke, while at variance with that of most clinicians, seems reasonable. What say our readers? This is the time to open this up for discussion. Let us have a large number of short articles on this subject for next month.

The Eyes and Disease.—An excellent outline of relation of the eyes to the diagnosis of disease and the remedial indications is given by Dr. R. W. Halladay, Hurry, Alta., Canada:

"The eyes are of interest in relation to various diseases, particularly those of the nervous system.

"1. Eyes bright, pupils contracted, the neighboring muscles contracted—these point to a brain-condition varying from mere excitation to inflammation.

"2. Eyes dull, expressionless, pupils dilated and immobile—cerebral congestion, especially if the patient be drowsy.

"3. Eyes full and prominent, puffy face and outstanding veins—apoplexy. Or in this condition we may find the eyes turned towards or from the paralyzed side, the latter if convulsions have occurred.

"4. Strabismus, optic neuritis, irregular pupillary dilation are seen in meningitis.

"5. Nystagmus seen in meningitis and multiple sclerosis or other intracranial disease.

"6. Protrusion of the eyes—*intraocular tumor, exophthalmic goiter.*

"7. Effusion of blood into lower lid—*cranial fracture.*

"8. Bluish sclerotics and dilated pupils—*danger of pulmonary tuberculosis.*

"The eyes are often an index as to:

"1. The beginning toxicity of a drug. E.g., dilation occurring while a patient is taking atropine or hyoscyamine is an indication that he is fully under its remedial influence, and increase of dosage converts the action into a toxic one.

"Somewhat similar is the irritation of the lids while arsenic and the iodides are being administered, and the drooping of the upper lids from gelsemine.

"2. The condition of the eyes often gives the knowledge that a certain drug is contraindicated. For instance, one should hesitate to give gelsemine when the eyes look heavy and the lids droop, nor should he use arsenic boldly in any case where an irritative (active) condition of lids is present.

"3. The condition of the eyes sometimes indicates certain remedies. For instance, no matter what the cause, a patient with bright eyes and contracted pupils will usually be benefited by gelsemine, while atropine will benefit nearly any disease associated with dull and drooping eyes with immobile pupils."

Treatment of Apoplexy.—The following is given by Dr. Wm. B. Secker, of Evanston, Ill.: "Indications for treatment in a typical case of apoplexy are: (1) *Rest* by putting patient to bed, with head partly elevated; (2) *relieve* congestion by applying ice to head and heat to feet; do not freeze scalp or burn feet, as patient does not feel. Friction to legs to restore circulation. Brisk catharsis by croton oil, one to three drops on the tongue. [Elaterin may be used if patient can swallow.—ED.] Local bleeding in patients that will stand it. (3) No stimulants to excite circulation unless heart is weak, then strychnine hypodermically. (4) Keep patient warm, thereby keeping blood to surface. Veratrine if fever and pulse are high,

until the latter is reduced to 70 per minute. If delirium, give gelsemine in small doses.

(6) Respiration can be aided by raising the larynx with tips of thumb and index-finger; inhalation of oxygen is of great value. (7) Bladder should be looked after and emptied at regular intervals. (8) Absorption of clot after inflammation subsides by giving the iodides or mercury biniodide, gr. 3-67; arsenic iodide, gr. 1-67; phytolaccin and iodoform, aa.gr. 1-2 given three to five times a day, just avoiding toxic effects. (9) Food should not be given for forty-eight hours, then only two ounces of liquid every two to three hours. (10) The patient should not be allowed to sit up for three weeks, and then only for a few minutes at a time, until the cerebral circulation has adjusted itself to new conditions (11) Galvanism and strychnine to arouse the nerves to action. Also thebaine when strychnine has been pushed to limit: indications of action and dose same as strychnine."

EXAMINATION QUESTIONS

1. What are the channels of elimination? Name the principal waste-products eliminated through these channels in (a) health, (b) disease.

2. What is meant by egestion? Distinguish between secretion and excretion. What is meant by histolysis? retrograde metamorphosis?

3. Name the various digestive fermentations encountered in the digestive tract, and their functions.

4. How is the body-heat produced?

5. Tell what is meant by intestinal autointoxication. Why is the cecum the seat of much putrefactive trouble?

6. What are the products of normal and abnormal gastrointestinal fermentation?

7. What are the causes of constipation? Describe a rational treatment for this condition. How do saline cathartics act?

8. What is meant by mechanotherapy? by Swedish movements?

9. Classify Swedish movements and give their physiological effects.

10. Tell something of the technic of these movements.

RESEARCH QUESTIONS

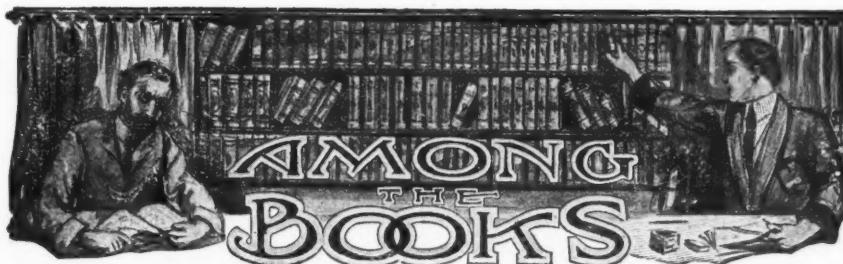
1. What bacteria are principally involved in gastrointestinal fermentation? Tell something about the chemistry and properties of indol, phenol and skatol.

2. When was pepsin discovered and by whom? pancreatin? When should the former be used and when the latter?

3. Tell something about the source and effects of the purin bodies.

4. How does atropine act as an anticonstipative?

5. Who introduced Swedish movements?



MACMILLAN'S "CHRONIC CONSTI- PATION"

Chronic Constipation, and Allied Conditions, Pathology, Etiology, Diagnosis and Treatment. By J. A. MacMillan, B. A., M. D., of Detroit College of Medicine. Kansas City: The Burton Company. 1908. Price \$2.00.

Constipation does not kill, but it tortures. Food, after it has done giving health, leaves a residue that health must get rid of or it will supply an amount of disease. The most successful medicaments are evacuants. The alimentary canal is the kitchen for the palace of the body, and the finest chamber of this palace will give no comfort if the kitchen is not kept clean. Hence Abbott's undeniably basic doctrine of alkaloidal practice: "Clean out! Clean up! then keep clean!" And this book of Dr. MacMillan's will be a great aid in understanding how to put the maxim into practice. The doctor writes plain and elementary enough to recall the elementary truths we have learned long or short ago and that bear on the subject at hand. The most valuable idea of the Doctor's in the book is the importance of peristalsis, the ills arising from its deficiency, and the best way to restore it to the normal. The Doctor is a master of his subject, and it is a pleasure and profit to follow him through the pages of his book.

SELTHER'S "INFANT STOOLS"

Infant Stools. An Introduction to the Study of It. By Paul Selter, M. D. Translated by Herbert M. Rich, M. D. Pub-

lished by the Detroit Medical Journal Company, Detroit, Mich. 1907. Price 30 cents.

An extended outline of the subject, very instructive not only for the pediatrician but also for the general practitioner.

POTTERER'S "TUBERCULOSIS"

Diagnosis and Treatment of Tuberculosis. By Francis M. Pottenger, A. M., M. D. New York: Wm. Wood & Company. 1908. Price \$3.50.

In our fight with the great and mysterious enemy of human and bovine life, the "white plague," we have not yet come to a perfect understanding of the enemy's nature nor of the arms best used against him. Theories are needed to explain facts, and facts to prove proposed theories, and the two are more likely to be met with in a thoroughly educated physician who has fortunately the material at his command to learn constantly from and teach the others from facts. These are the happy conditions under which the author, who is the medical director of the Pottenger Sanatorium for diseases of the lungs and throat, located at Monrovia, California, wrote the book before us. It is a fine volume both as to mental and material execution.

ABRAMS'S "BLUES"

The Blues. (Splanchnic Neurasthenia.) Causes and Cure. By A. Abrams, A. M., M. D. (Heidelberg), F. R. M. S. Illustrated. Third edition, revised and enlarged. New York: E. B. Treat & Company. 1908. Price \$1.50.

This is the third time since 1904 that we have the pleasure of reviewing and highly recommending this book. While the contention about the portal, respectively the visceral abdominal, circulation is a very old one, dating from the period when even the oft innocent liver used to be inculpated by regular and irregular quacks, it is a profit to have the question so lucidly and yet so scientifically revived as Dr. Abrams does in this book. And neither does he lose himself in theory, but applies well his science to his own practice and then teaches others to imitate him which they will be able to do if they make an earnest study of his book now before us.

NEUSSER'S "BRADYCARDIA AND TACHYCARDIA"

Bradycardia and Tachycardia. By Prof. Edmund von Neusser, M. D., of the University of Vienna, Austria. Translated by A. MacFarland, M. D., of Albany Medical College. New York: E. B. Treat & Company. 1908. Price \$1.25.

This volume is Part II of the "Clinical Treatises on the Symptomatology and Diagnosis of Disorders of Respiration and Circulation," by the same original author and translator. Excellent little books these are for study and reference. The present volume has an appendix of special interest, containing articles on Cause of the Heart Beat; Adams-Stokes Symptom Complex; Adam-Stokes Disease; American Medical Literature on Tachycardia, and Foreign Bibliography on these subjects. The style is most readable and the subject-matter very informing in its discussion.

McCANN'S "CANCER OF THE WOMB"

Cancer of the Womb. Its Symptoms, Diagnosis, Prognosis and Treatment. By Frederick John McCann, M. D. (Edin.), F. R. C. S. (Eng.), M. B. C. P. (Lond.). London and New York: Henry Frowde, Oxford University Press. Price \$7.00.

This book contains 161 royal-octavo pages of text, and 46 full-plate illustrations of

exquisite workmanship and faithful realism. It is divided into the following chapters: (1) Anatomical introduction. (2) Etiology. (3) Cancer of the neck and body of the womb. (4) Spreading of uterine cancer. (5) Diagnosis. (6) Microscopic appearances and diagnosis. (7) Surgical treatment of uterine cancer. (8) Value of vaginal total extirpation of the cancerous uterus, and the extended abdominal operation. (9) Treatment of inoperable uterine cancer. (10) Sarcoma uteri. (11) Deciduoma malignum. (12) Cases. (13) After-treatment of operations for cancer of the womb.

The author worked for years in gathering pathologic material for this book. He was not satisfied with what the teaching literature existent afforded. Hence it is that which he had seen, looked upon, and treated and followed to a cure or to the end of life, and then studied again as a specimen. It is these that taught him that which he teaches us. In the best sense of the word this book is original, yet is far from exploiting egotism, and the author teaches from the love of teaching.

BREWER'S "TROPICAL HYGIENE"

Personal Hygiene in Tropical and Semitropical Countries. By I. W. Brewer, M. D. Flexible covers, \$1.00. Published by F. A. Davis Company, Philadelphia. An excellent little book in every way.

CORNER AND PINCHES'S "OPERATIONS OF GENERAL PRACTICE"

The Operations of General Practice. By Edred M. Corner, M. A., M. C., M. B. (Cantab.) etc., and H. Irving Pinches, M. A., M. B., B. C. (Cantab.) etc. London and New York: Henry Frowde, Oxford University Press. 1907. Price \$5.50.

The contents of this book treat most lucidly of matters in surgery, standing between those subjects primarily belonging to a general textbook and those that not very long ago we used to range under the heading of "minor surgery." But our restless age allows no boundaries to stand

such as the latter phrase implies. A modern general practician is expected to do often more than mere minor surgery, and as he has to do it, it is best he should know how, and that is what this book very properly undertakes to teach.

RODMAN'S "DISEASES OF THE BREAST"

We have to apologize to the author as well as publishers of Rodman's work on "Diseases of the Breast" for printing the name as Bordman in our May number of *CLINICAL MEDICINE* (page 729)—an error due to copying. Let this occasion serve to call renewed attention to an excellent and most useful book for every practician.

GUTHRIE'S "FUNCTIONAL NERVOUS DISORDERS"

Functional Nervous Disorders in Childhood. By Leonard G. Guthrie, M. A., M. D., F. R. C. P. London and New York: Henry Frowde, Oxford University Press. 1907. Price \$3.00.

There is in store, in the book of some 300 pages before us, a truly literary treat and a solid scientific nourishing and upbuilding for the general practician and the special paediatrician, for the general neurologist and the special alienist, as well as for the humanistic educator. The author disclaims "all pretensions to scientific treatment of the subject," but all that he is to be allowed of such modest disclaimer is the total absence of scientific pomposity and that alienistic terminology which seems to have been unprovidentially invented for the purpose of concealing thought. And since the "original lectures" forming the basis of this book were not didactic, and so this book itself is not *ex cathedra*, so much the more is it enjoyable because it is *extra cathedra*.

The author has done a decidedly humane service in bringing out this book in which he successfully emphasizes the truism, which will stand some more emphasizing for some time, that "the neurotic child is the father of the neurasthenic adult"—and

good Lord! what an innumerable progeny! Most young graduates are unmarried and know mighty little of adult human and feminine normal or abnormal psychoses, and proportionately *ad infinitum* less of childhood psychoses. To them this book is an obligation to read. The language of this book is easy and void of any "ennuistic" dormific qualities. I wish I could give the reader at least the table of contents of this book. But, dear me, I have yet two shelffuls of books to review.

SCUDDER'S "FRACTURES"

The Treatment of Fractures, with Notes Upon a Few Common Dislocations. By Charles Locke Scudder, M. D., Sixth Edition, thoroughly revised and enlarged, with 856 illustrations. Philadelphia and London: W. B. Saunders Company. 1907. Price, \$5.00.

It is very easy to grow enthusiastic over this modern magnificent work on fractures and dislocations. The book was received from its very first edition on with gratifying approbation by the profession, and this sixth edition has added another proof that the profession was not mistaken. The mechanical execution of the book forces praise for the publishers. That such a text should receive an adequately proper setting is gratifying to an artistic taste. So should it always be!

BARNHILL AND WALES'S "MODERN OTOTOLOGY"

Principles and Practice of Modern Otology. By John F. Barnhill, M. D., and Ernest de Wolfe Wales, B. S., M. D. With 305 original illustrations, many in colors. Philadelphia and London: W. B. Saunders Company. 1907. Price \$5.50.

A very detailed work on 550 pages of 10½ by 6 inches, fully illustrated, and having the following aims to accomplish: (1) To modernize the subject of otology, and especially with reference to suppurative affections of the temporal bone, in which much good work has been done in recent years.

(2) To correct certain traditional beliefs, especially in pediatric practice. (3) To advocate the earliest possible prophylaxis or treatment. (4) To emphasize thorough examination and definite diagnosis as a basis for rational treatment. (5) To present the subject in illustrative form.

The work is prepared by men who have mastered the subject from every point of view and who tried to supply the deficiencies which as teachers of the subject at the Indiana University School of Medicine they found in the textbooks now at command.

WRENCH'S "MIDWIFERY"

Rotunda Midwifery for Nurses and Midwives. By G. T. Wrench, M. D., late Assistant Master of Rotunda Hospital. With an introduction by the Master of the Rotunda Hospital. London and New York: Henry Frowde, Oxford University Press. 1908. Price \$2.00.

This book is an English production and publication, and it is arranged in its teaching to satisfy the requirements of knowledge and regulation of certain English State authorities in the prosecution of the profession of obstetric-nursing practice. It is quite elementary and endeavors to avoid the least technical terminology, yet the information imparted is sufficient for any intelligent person to be entrusted with a normal case of parturition. The mastering of this book will legally qualify a person to practise obstetrics.

WALLACE AND DUDGEON'S "PROSTATIC ENLARGEMENT"

Prostatic Enlargement. By Cuthbert S. Wallace, M. B., B. S. (Lond.), F. R. C. S., etc. Bacteriology, by Leonard S. Dudgeon, M. R. C. P. (Lond.). London and New York: Henry Frowde, Oxford University Press. 1907. Price \$4.50.

The question of prostatic operations is far from being settled *pro* or *con*, and a monograph on the subject as informing as the one before us is welcome indeed. There are some things old that are worth knowing,

and some things of promise in this book that are new. Everyway this monograph is highly recommendable.

The subjects treated of are: (1) Surgical anatomy. (2) Experimental pathology. (3) Morbid anatomy. (4) Morbid histology. (5) Bacteriology. (6) Etiology. (7) Diagnosis. (8) Treatment, general and palliative. (9) Operative treatment. (10) Prostatectomy. (11) Nature of enucleation operation. (12) Carcinoma of the prostate.

The text contains 207 pages and is abundantly and satisfactorily illustrated. There is a good index.

BROCKBANK'S "LIFE INSURANCE"

Life Insurance and General Practice. By E. M. Brockbank, M. D., F. R. C. P. London and New York: Henry Frowde, Oxford Medical Publication. 1908. Price \$2.50.

The general practitioner of large practice in a large place will, when he is willing, give a better life-insurance examination than a physician who is devoted exclusively to life-insurance examination. The former case seems to be that of the author of this excellent book, who is connected with the Victoria University of Manchester, England.

RIEDEL'S "BERICHTE"

Ausgewahlte Arbeiten aus den Wissenschaftlichen Laboratorien der Chemischen Fabriken von J. D. Riedel, A-Z.

Riedel's "Mentor, 1908." Fuer die Namen, sowie fuer die Zusammensetzung, Eigenschaften und Anwendung neuerer Arzneimittel, Specialitaeten und wichtigerer technischer Produkte. 52 Auflage. J. D. Riedel Aktiengesellschaft, Berlin.

We thank the firm for this very useful catalog of their own productions and those of others of more recent date. We do not know what the price of the "Berichte" is, but we presume that anyone who can make a proper use of it in his medical or pharmaceutical profession may get it for the asking.



CONDENSED · QUERIES · ANSWERED

PLEASE NOTE

While the editors make replies to these queries as they are able, they are very far from wishing to monopolize the stage and would be pleased to hear from any reader who can furnish further and better information. Moreover, we would urge those seeking advice to report the results, whether good or bad. In all cases please give the number of the query when writing anything concerning it. Positively no attention paid to anonymous letters.

QUERIES

QUERY 5302.—“A Case of Mixed Infection.” E. E. W., Illinois, forwarded a bottle of sputum, asking to have it examined for tubercle bacilli. The doctor writes: “I had it examined once and did not find the tubercle bacilli, but from the symptoms I suspect consumption. Patient is a lady, about 35 years old; has had a cough about four months, expectorating quite profusely, lately mixed with blood. Able to work but very little; no appetite; no murmur in lower portion of left lung. The last few days she has quite a good deal of pain when coughing, more or less, really, over both lungs; but what seems strange to me, she had no elevation of temperature in any part of the day, or night-sweats, or hectic flush of cheeks. Respiration, 29. Hereditary taint.”

The report of our pathologist shows tubercle bacilli to be absent; staphylococci, streptococci, diplococci and pus-cells present. The absence of tubercle bacilli in this specimen, however, does not necessarily mean that the patient is not tubercular; other specimens should be examined at intervals of ten days or two weeks. In the meantime, Doctor, place this patient upon blue mass and soda, 1-2 grain, podophyllotoxin, gr. 1-67, and iridin, gr. 1-6, hourly for four doses every third night for two weeks, with a saline laxative the next morning on rising; calcium sulphide, gr. 1-3, echinacea, gr. 1-2, alternately every two hours during the day; and the arsenates of iron, quinine and strychnine after meals.

Procure from the Geo. E. Leininger Co., of Chicago, one of their pocket mentholated

formalin inhalers (the price is nominal) and let the patient inhale frequently. Keep the nares, fauces and buccal cavity thoroughly cleansed with an alkaline antiseptic. Put the patient upon a nourishing diet, order deep breathing, out-door exercise and salt sponge-baths.

QUERY 5303.—“Vaginal Stenosis.” L. R. D., New York, has a patient well past the menopause who for two or three years has been suffering from a gradual contraction of the vaginal orifice so that the marital obligation has come to be excruciating; even slight stretching by the finger is very painful. “Feels as if it would tear the tissues. No visible changes except an anemic condition of the mucous surfaces. Patient has had three children, most of them of average size. Trouble only for the last two or three years, but is growing worse.”

Possibly a case of kraurosis vulvae. Little can be done under the circumstances save by surgical procedures, and these are apt to prove disappointing. The affected tissue can be dissected out and plastic work done with satisfactory results in some few cases. Dilatation may be attempted under anesthesia. On the other hand you may have an adhesive vaginitis (senile variety). Only a careful examination and description of conditions will enable us to form a positive diagnosis. The adhesions can readily be detected with the finger. The vagina may be douched every twenty-four hours with a gallon of hot normal salt solution and wool tampons saturated with boroglyceride introduced.

Any ulcerated spots should be painted with a solution of nitrate of silver. Personally we prefer to apply wool tampons smeared with cold cream or benzoated oxide of zinc ointment in which a little carabolic acid (3 percent) may be added. A dilator may be introduced for an hour or so daily.

Before we can be of real service to you, however, we must have a clear conception of local conditions and area of involvement. The anemia leads us to suspect senile vaginitis.

QUERY 5304.—“Facial Eczema.” G. W. W., Indiana, writes: “I have grown so used to turning to you when “in a hole,” always finding help when I do so, that I present the facts in another case and ask for assistance. For a month now I have been treating a case of facial eczema with various local applications, giving internally weekly or semiweekly rounds of calomel and podophyllin, followed by a daily saline laxative, thus insuring a couple of movements of the bowels daily and, the days of calomel, several movements. I have also given intestinal antiseptics internally three times a day, and calcium sulphide. He is a rather plethoric man and about 60 years old; has been subject to occasional attacks of eczema, but never of the face before. This attack began about four months ago. I have in the time he has been in my care succeeded in “killing” the scaly eruption and his face is now (save at two points just under the outer corner of each eye where small patches are yet to be seen) as smooth as a baby’s, but at times his cheeks are intensely red with an occasional darkening of the red for an hour or two, when he complains of a sticking or stabbing sensation that is very annoying.”

Give this man arsenic sulphide, gr. 1-67, and iridin, gr. 1-6, after meals and one dosimetric-trinity granule (aconitine, digitalin and strychnine arsenate) morning, noon and night, to equalize the circulation; between meals give some good antiscorbutic combination, with a saline laxative every morning. Have the face gently massaged, or better still, if you have one, use the vibrator twice a week. Better examine the urine carefully;

and also be sure that digestion is proceeding normally. If it is not, give enough papayotin to produce “effect.” We think that this treatment will prove effective after two weeks or so, but you must look after the urine, Doctor, and secure elimination of solids. Should medication not prove effective add one ounce of zinc oxide to twelve ounces of liquor antisepticus, U. S. P. Shake thoroughly and dab this on the affected areas. You will get prompt relief and beneficial results of the skin generally. If you do not want to bother with this you will find glycobenphene-Heil an effective application.

QUERY 5305.—“Caustics and Epithelioma.”—A Sad Case of Poisoning.” D. M. B., Missouri, says: “On January 27 I made an application of a dermal caustic to a small epithelioma on the cheek of an old lady, with production of a characteristic black eschar, which I informed my patient would drop off in about three weeks. The eschar, or black scab, is still adherent. My patient went to Memphis a month ago, and I am informed is now in a hospital there with erysipelas of the face, starting from the site of application. What are the chemical constituents of the caustic and why does the eschar remain instead of dropping off? Can the application in any way be accountable for the subsequent erysipelas? I have had good results in other cases where I used the remedy.

“On February 20 a 27-months’-old boy got hold of a bottle of the arsenates of iron, quinine and strychnine. It is unknown how many of the little pills he swallowed, as it was not known he had taken any until after his death. He died in twenty minutes after seizure with tetanic spasms. Strychnine poisoning was my diagnosis and search in my office disclosed about forty granules on the floor, the 500-granule bottle nearly empty, cork lightly replaced and bottle in its usual place in cabinet. The child was never known to meddle with medicine, but would always swallow a little pill with pleasure when given to him. He had had abscess of the middle-ear and earache that morning,

and as he was very bright the supposition is he took the medicine of his own accord, as he supposed, to help his earache."

The dermal caustic is a solution of sodium ethylate. A caustic of this type should rarely (if ever) be applied to an epithelioma; we have frequently warned against it. Even the arsenical paste of Marsden frequently sets up erysipelatous conditions, and here the eschar should have been removed by the application of poultices. For your future guidance we repeat our regular instructions for the treatment of epithelioma with Marsden's paste: Take of arsenous acid, one dram; pulv. acacia, one dram; cocaine hydrochloride, two grains. Mix well, add a small quantity of water and rub the paste to a cream. Curet the growth thoroughly and apply the paste on a piece of rubber plaster after the oozing has ceased. Leave *in situ* from eighteen to thirty-six hours. It may be necessary to make another application and to use morphine hypodermically to control the pain. Upon removing the plaster you will find a black mass surrounded by an inflamed area. Apply hot poultices until this slough comes away and then dress as any clean wound should be dressed. Nuclein powder or bovinine on iodoform gauze will prove efficacious.

The dermal caustic is intended for blood-filled growths, a little being applied often until the eschar begins to separate at the edges and curl up; this falls in due time, leaving a perfectly normal surface underneath. You cannot possibly have a normal underlying surface when dealing with epithelioma. We should have kept a very careful eye upon the case had we decided that it would be safe to use such a powerful caustic at all.

We note also the death of the child from swallowing an unknown number of the triple arsenates. Strangely enough a similar report reached us March 27. Here a fifteen-months'-old infant got hold of a bottle of triple arsenates and swallowed an unknown quantity and died within thirty minutes with all the symptoms of strychnine poisoning. If a child chewed one of those tablets that would be all he would chew, and as each

granule contains only 1-134 of a grain of strychnine, two, three or even four would not prove fatal. If he swallowed in large quantities, unchewed, it seems that absorption could hardly be rapid enough to cause such immediate death, and yet there can be but little doubt as to the cause here. Did you wash out the stomach promptly and administer antidotes, or were you too late? The writer saved his own child when supposedly moribund after swallowing aconitine, digitalin and strychnine in unknown quantities. This fearful experience serves to impress upon us forcibly the necessity for keeping drugs out of the reach of children, especially drugs of a toxic character.

QUERY 5306.—"The Therapeutics of Turpentine." A. D., Washington, desires a comprehensive statement of the therapeutics of oil of turpentine. The textbooks on *materia medica* he finds to be all too brief and narrow in regard to this valuable drug. The doctor suggests that it would be well to call for reports from the field.

Oleum terebinthinæ (oil of turpentine, spirit of turpentine), as found on the open market, is not fit for internal use and, as a matter of fact, should not be used externally if the skin is broken. *Oleum terebinthinæ rectificatum* (U. S. P.) is the preparation of choice. Merck's is an excellent brand. The average dose is from 5 to 30 minims, but quite large doses may be given in exceptional cases without causing stranguary or other untoward effects. The very large dose (half to one ounce) occasionally recommended as a tenifuge is not necessary; sixty drops at most, taken on rising and followed by an ounce of castor oil, being effective. Oil of turpentine is without question one of the best remedies for trichinosis. Five drops should be given every three hours, the patient being nourished temporarily on milk, barley water and thin cereal foods.

Ingested oil of turpentine causes a sense of warmth, or in overdoses or when exhibited to a patient whose gastric mucosa is inflamed, more or less burning; respiration is quickened, the pulse-rate increases in

force as well as frequency, and a sense of nausea may be experienced, which (if a large dose is taken) ends in nausea. Purgings, eructations and partial or total retention of urine for hours, followed by hematuria, usually follow overdoses. An obstinate gastroenteritis has been set up by the crude oil; properly used the rectified oil never causes such disorder. In therapeutic doses the writer notes quickened pulse, heightened temperature, a sense of exhilaration (with perhaps restlessness), and dilation of pupils. Toxic doses later cause insensibility or a muttering stupor, trembling of the limbs, profuse sweating, cyanosis, stertorous breathing, and irregular, thready pulse. All the body-secretions smell of turpentine. It is eliminated chiefly through the kidneys and mucosa. Its external uses and effects are too well known to need description.

Oil of turpentine is indicated chiefly in cases where there is a catarrhal relaxed condition of the mucosa. It is a reliable carminative and promptly relieves flatulence and tympanites. Peculiarly, too, it gives excellent results in many forms of gastric and intestinal inflammation. In typhoid fever, where the tongue is dry, brown and fissured, and the patient is in a semicomatose condition, with tympanitic abdomen, turpentine acts splendidly. It is given 10 to 15 drops every two or three hours, on bread, sugar or in emulsion or milk. Personally I dislike milk. Ellingwood states that a "dry, red, glazed tongue, with suppression of secretion generally and tympanites," indicates this remedy. In cystitis and urethritis small doses act well; use it only in subacute or chronic cases, however. I have given turpentine to children suffering from the vague intestinal troubles of the summer months, with great benefit. This agent inhibits the formation in the stomach of butyric and lactic acids and destroys bacteria, hence promptly affords relief. Give 4 drops on sugar.

In acute and chronic bronchitis characterized by excessive mucous discharges turpentine is an excellent remedy. Small doses frequently and inhalations of steam

bearing turpentine vapor will be used. In twenty-four hours the cough will lessen and discharge be markedly decreased. Capsules may be procured but the drug is best exhibited on sugar. In laryngeal and pharyngeal inflammations the same measures prove effective. Here turpentine stapes may be used, or the linimentum terebinthinae of the U. S. P. applied on flannel. Such applications are of real value in all inflammations of the lungs or upper respiratory tract, and the old woman who hastens to put on turpentine cloths as soon as cough, hoarseness or "pain in the chest" appear is not doing far from the right thing. In croup turpentine has been used for a century or more. It is applied in the form of stapes or as a liniment (or pure), the fumes are inhaled, and the oil is given on sugar—3 to 5 drops every hour or two, or two doses within the hour, then every hour till relief is obtained. Calx iodata, however, has of late superseded this agent as an internal remedy. It may be used as an adjuvant, however, with advantage.

Diphtheritic patients frequently obtain relief from turpentine inhalations: oil of eucalyptus and oil of turpentine may be mixed and used direct on swab or with atomizer. I use the combination and steam inhalations in most cases. Internally, it will be well to give 5 drops every three hours, having the child slowly dissolve in its mouth the lump of sugar bearing the remedy.

The value of oil of turpentine as a hemostatic must not be forgotten. In passive hemorrhages from the stomach or intestines it gives the best results. In hematuria it is liable to prove dangerous, but in certain cases it gives good results. In purpura it rarely fails to affect beneficially the oozing. Its use as a tenifuge has been mentioned. We have better remedies, but pure oil of turpentine—1-2 dram—on an empty stomach in the morning, followed by castor oil, does expel teniae.

Ellingwood and other authorities recommend turpentine in appendicitis, typhus, peritonitis and erysipelas. The Eclectics use it freely and advantageously in all internal hemorrhages and catarrhs.

The writer looks upon oil of turpentine as one of the most promptly acting and positive stimulants to granulation we possess. Its bactericidal action is remarkable. With cinnamon water and oil of turpentine he has controlled suppurative processes which defied every known agent. Old leg-ulcers heal up under turpentine in every instance. Cleanse the sore with peroxide of hydrogen, curet, if necessary, the edges and base, and then apply pure oil of turpentine on a layer of gauze. Cover with antiseptic gauze or cotton and put on a snug bandage. Repeat daily till the sore is clean and edges close in, then apply defibrinated bullock's blood (borated) and eugenol or iodoform gauze. If skin-grafting is needed, apply only tiny pieces of skin at intervals of 1-8 inch, cover with rubber tissue perforated with pinholes; over this apply the gauze soaked with prepared blood (sanguiferrin, bovinine) and bandage. Do not remove the tissue till grafts have "taken hold," but flood the surface daily with warm boric-acid solution.

Cleanse buccal and nasal ulcers and paint with oil of turpentine: they promptly disappear. Try it in your next cases of chancroid, but be sure to use pure oil. Chilblains are speedily cured by applications of turpentine. Finally, incontinence of urine due to relaxation and dysentery of a mild type in the aged may be treated with this agent. Small doses, four times a day, are best. In acute inflammation of the gastric intestinal or urinary mucosa turpentine should not be used, or at least with great caution.

The idea that "old turpentine" is a remedy for phosphorus poisoning is exploded. At least all the "old" turpentine obtainable now fails to work satisfactorily. Read the very excellent articles upon turpentine in Ellingwood's "Materia Medica and Therapeutics," and Standard Dispensatory.

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QUERY 5307.—"General Syphilitic Manifestations with Pulmonary Complication." O. H. S., Indiana, writes: "I have a case I wish to relate for your consideration. Male, aged 20; weight, in health, 160 pounds;

was never sick much; parents healthy. A physician of our town was called to see this patient February 22, 1908. Found him feeling bad, little fever, and in about one week diagnosed it as typhoid fever. At this time he had more fever and was delirious for a few days, got out of bed one night; but his fever did not run high until March 7, when it was 105° F. On March 8 I was called in consultation. I found lower lobes of both lungs very much engorged, dulness, and bronchial respirations. The attending doctor had not found this. In the second week of his sickness he broke out with syphilitic eruption; had mucous patches in his mouth. His fever did not continue high, so I did not see him again until March 27. At this time he was hoarse, could only talk in a whisper. There were six or seven ulcers on the left tibia. Pulse weak and rapid, very little fever, some cough. I saw him every day with the attending physician, and he seemed to improve some; still his pulse was quick and he had some cough; ulcers healed. The original doctor was discharged and I took the case April 18.

"I find him emaciated and weak; pulse 100 to 134; evening temperature, 100-103° F.; respiration 24-35; dulness in both lungs, cavity in left apex. Has had coughing spells. At times gets up only a frothy substance, at other times large quantities of mucus and some pus. Has had two coughing paroxysms to which he almost succumbed. When he changes position it brings on a coughing paroxysm, and it is difficult to get him to change often. Bowels regular; appetite extra good; is emaciated. I sent one specimen of sputum to Indianapolis. The laboratory reports: no tubercle bacilli, some pus-cells, some streptococci, and requests another specimen. Respirations are rapid but not distressing (dyspnea). Hoarseness left some time ago, ulcers healed, hair is falling out. Had him on tonics and mercurial treatment. I have never thought this young man had typhoid. Can this be empyema or can it be that the lung-tissue is breaking down from the syphilitic poison? Has never had any pains in either side as a symptom of pleurisy. It is a very

puzzling case to me and I am anxious to have help."

Unquestionably the primary disorder here is syphilitic and we doubt whether any treatment will prove efficacious until the syphilitic virus is neutralized. There is, no doubt, syphilitic laryngitis also, but whether the lung involvement is of a specific character (and such a condition may present—see Anders's "Practice") or an intercurrent bronchopneumonia, it is impossible to decide. Typhoidal and pneumonic infection might be concurrent in a syphilitic subject (as such a patient would yield very readily to invasion) and the sequelæ would unquestionably be numerous and hard to control. We do not think that an empyema exists, still it is possible. Only repeated careful examinations of the patient will enable one clearly to understand the pathologic conditions. We should, however, push calx iodata with mercury protoiodide, stillingin, the arsenates and nuclein as alternants to full effect; once a week we should inunct with mercury, and twice weekly rub in thoroughly a dram of unguentum Credé (colloidal silver). Every morning have the entire body sponged with an epsom-salt solution at body-temperature, and wash out the bowel every other day with a colon-tube and a weak alkaline antiseptic solution. To the mercury add stillingin and arsenates, iridin gr. 1-6, and give after each meal one grain of echinacea. Nuclein may best be given hypodermically, 10 drops morning and night, but if this is not feasible, drop this amount under the tongue and allow it to be absorbed from the buccal mucosa. Report progress.

QUERY 5308.—"Arteriosclerosis. Cirrhosis of Liver. Contracted Kidney." C. J. B., Iowa, asks for help in a case described as follows:

"F. P., male, age 72 years, has been sickly for over fifteen years and on this account retired rather early from his occupation as farmer. For the past three to four years he has been confined to his bed, often for months at a time, complaining of pain in abdomen and chest, breathing hard and

labored (asthmatic type), appetite very poor as a rule, gas forming freely after meals, causing distress and eructations. Bowels costive for the past twenty years; has used many kinds of pills and teas to keep them moving.

"Body is very much emaciated, skin of dirty yellowish gray color, dry and loose. Abdomen flat and receding from normal line of curvature. Breathing labored, of the asthmatic type; patient has had attacks of asthma off and on for the past twenty years. When taking deep respirations a hard, labored dry cough results. Patient's teeth are all gone, no stumps left in the mouth. Gums look healthy, soft palate and upper posterior part of pharynx are of a light-yellow color. Eyes show *arcus senilis*. No history of syphilis; genital organs normal and no scars to be seen.

"Palpation: Skin abnormally dry and harsh to touch, marked arteriosclerosis of the radials, temporal and tibial arteries. Abdominal muscles rigid, dry and tender to pressure. Prostatic gland and rectum normal to touch. Am not able to palpate kidneys on account of rigidity of abdominal muscles.

"Percussion: Hyperresonance of chest, slightly on both sides, positive cardiac dulness about 2 by 2½ inches, and apex-beat somewhat removed externally toward axillary line; impact diffuse. Hepatic dulness lessened upward from lower border of ribs for over one inch and tenderness on deep pressure over hepatic area elicited. Stomach somewhat enlarged upward, lateral, left and down; tympanitic on percussion. Intestines, especially transverse and descending colon, tympanitic on percussion.

"Auscultation: Moist râles heard in lungs of both sides. Am unable to elicit any bronchial breathing. Heart, first sound hard and full; mitral sound short, sharp and snappy, showing obstruction to circular flow. Tricuspid valvular sound also short, sharp and snappy. Action of heart is intermittent, generally, and labored. Rumblings of gas quite marked in stomach and intestine.

"Reaction of gastric contents after test-breakfast has given positive results repeatedly

of presence of hydrochloric acid. Urine, quantity often not exceeding 8 ounces in twenty-four hours, is light-yellow, clouded, and contains excessive amounts of phosphates, biurates and oxalates, no sugar, little albumen, has marked acid reaction and a specific gravity of 1024. Desire to micturate is often accompanied by pain in neck of bladder and the voiding of only very little urine. No pus-cells found in urine. Sputum gave negative results regarding tubercle bacilli.

"State of patient, mentally depressed, irritable, distrustful and suspicious. Insomnia marked.

"Best results so far obtained by bromides and tincture of aconite. Patient goes from bad to worse. Diagnosis: chronic nephritis. What are your suggestions?"

The age of this patient is of course against him and there is no question but that you have a marked case of general arterial sclerosis to deal with. The liver is evidently more or less cirrhotic and the terminal stage of contracted kidney probably exists. We should be inclined under the circumstances to give this man cactin and digitalin, gr. 1-67 of each, every three hours, hydrastin, helenin, eupatorium, aa. gr. 1-12, leptandrin gr. 1-6 (the "diuretic and laxative tonic" formula) every four hours, barley water *ad libitum*, and decinormal salt enemata (allowing some of the fluid to be retained) daily or every other day. Have the skin sponged daily with a very weak solution of magnesium sulphate (1 ounce to 2 quarts), followed with brisk friction with a rough towel; order concentrated, easily assimilated food (egg-nog, beef juice, somatose, sanguiferrin, etc.), the prepared predigested cereal foods with enough fruit (well cooked) and pulped meat to afford variety and bulk. Shredded wheat biscuits are good for this man; boiled rice and barley are also suggested. Increase the amount of urine, Doctor, if you have to add barosmin to the cactin and digitalin, and after a while, as conditions improve, give morning and night, on rising and retiring, two dosimetric trinity. We cannot hope to help this man indefinitely, but you can make him more comfortable during

his stay on this earth. The bromides are worse than useless—injurious. We cannot see how aconite alone can fail to prove injurious ultimately.

QUERY 5309.—"Nevus." W. S. D., Alabama, has a little patient, seven months old, who has a nevus on the forehead about three-fourths of an inch above the left eyebrow. It is nearly three-fourths of an inch in diameter and is one-fourth of an inch thick. It is bright-red in color, having a decided strawberry appearance. The parents are very anxious to have it removed and of course don't want any scar to remain. The doctor asks: "Could I remove it successfully with sodium ethylate?"

A good "dermal caustic" (sodium ethylate) would probably remove this growth perfectly, provided you can keep the child under observation and prevent sudden or rough removal of the eschar. Your case appears to be an arterial nevus, and we should be inclined, under the circumstances, to make a perfect piece of work and excise it under general anesthesia. If the work is done aseptically, an almost unnoticeable linear scar will alone result.

The writer removed a very large nevus of the cavernous type which filled the space under the left eye, adhering to the side of the nose down to the alæ in a child of one year, with the loss of but a teaspoonful of blood and the most perfect cosmetic results. He allowed the deepest part of the wound to granulate up from the bottom. As it was a girl-baby, appearances meant a good deal.

If you try the "dermal caustic," apply a little of it often, protecting the surrounding skin during the application with vaseline. Apply the caustic with a glass rod over the entire surface, and after a minute take up any superfluous fluid from the lower border with a piece of blotting paper. In about three days you may repeat the application. Then allow the eschar which will form to curl up from the edges and remove itself. You may then repeat the caustic. About three such treatments will probably bring you down to normal skin. Nævi of this

kind cannot be cross-hatched, and the injection of astringents is liable to prove disastrous, owing to the formation of thrombi. Were we in your place, we should certainly do a clean excision. By the way, before you operate let us suggest that you address Dr. Wm. Allen Pusey, of Chicago, and ask him to send you a reprint of his article upon the treatment of naevi by freezing with carbon dioxide. Dr. Pusey has had some remarkable results with this agent. Should you use it we shall be very much pleased to have a report from you.

QUERY 5310.—“A Case of Tapeworm.” J. B. S., Washington, in a recent letter says: “A male, twenty years old, has had worms pass from his bowels during natural movements, for the last six or eight months. I gave a ‘worm remover,’ and it did some good, but they soon multiplied again. He complains of a drawing sensation in the rectum all the time and some tenderness also. The worms are about 1 1-4 inches long and 1-8 inch wide, flat, and resemble white wax. They remain alive for some time after they are passed. They also crawl away from him between the bowel actions. Can you name them? The patient is losing flesh. His appetite is good and sometimes it is not, but he becomes hungry soon after eating. A hungry feeling comes over him, but then he can eat only a small amount of food and is quickly satisfied. My diagnosis is, young tapeworm.”

The worms described by you are probably segments of *Tænia solium*, an ordinary form of tapeworm. It is quite evident from the number of segments of mature worm which are being voided that a large parasite exists, for, if you will read up on *tænia*, you will find that only the mature segments are voided, each segment being bisexual—male and female. There are no “young tapeworms,” the *tænia* going through an interesting series of developmental cycles. The eggs are scattered when the segments dry and are frequently picked up by animals. There are several varieties of tapeworm, the mature worm always occupying the small intestine. *Tænia saginata*, the beef-

worm, is the most common, being derived from beef. *Tænia solium*, or armed tapeworm, is derived from pork; *tænia cucumerina* is contracted from the dog, and *tænia elliptica* from the cat. Some authorities consider the last two identical. Any good work upon diagnosis will give you all the information you desire relative to tapeworm. If you will use a reliable tapeworm remedy (preferably a combination of male-fern, chloroform and a purgative) you may rest assured of dislodging the worm.

QUERY 5311.—“Traded Uncertainty for Certainty.” Says J. V. W., California: “I am wading into the active-principle methods, and the deeper I wade the better it gets. I have traded off uncertainty for certainty at last. He was a good ‘hoss’ but he will never throw me again!”

We note with pleasure that you are wading deeper into the alkaloidal waters. You will find the swimming good and the water warm, always, and we trust that you will take every opportunity to acquaint your medical brethren with that fact. The whole thing may easily be summed up. The man who knows what he is doing, who can recognize pathological conditions and promptly exhibits the right remedies therefor, giving the small dose at frequent intervals to effect, is the man who gets results. And, Doctor, as you know by this time, the man who gets the results gets the practice.

QUERY 5312.—“Treatment Wanted.” J. A. M., New York, asks: “Will you kindly outline the treatment that you would pursue in a case of tuberculosis of the bone?”

Before we can be really useful we must have a clearer conception of conditions present, part affected, length of time infection has existed and extent of involvement. Also give us a distinct idea of physical conditions generally. Where the bone is necrosed or there is an open lesion or sinus, nothing but operation and thorough removal of the affected parts can avail. Nuclein, the “antituberculosis” formula, echinacea and calx iodata, with plenty of nutritious food, are the main remedies.



BISHAT said over a century ago, "pharmacology in its present state is not a science fit for a methodic mind."—*Sajous*.

DIABETES.—The lack of immunity on the part of the non-exposed suggests a possible infection.—Eccles, *Medical Record*.

SCIATICA.—In *The Medical World*, J. M. Walker tells of curing his own sciatica after many years' suffering, by riding the bicycle.

DR. FRANCIS BILLINGS wrote in 1903, that drugs, with the exception of quinine in malaria and mercury in syphilis, are valueless as cures.—*Sajous*.

EVOLUTION AND DISEASE.—Nothing in nature is more closely associated with every form of evolution than is disease.—R. G. Eccles, *Medical Record*.

UREMIA.—Sparteine sulphate, gr. 1-2 every three hours, if tension is low, increases the quantity of urine and stimulates heart-action.—Smith, *Medical Era*.

USEFULNESS BASED ON REMEDIES.—No experienced practitioner will deny that nine-tenths of our professional usefulness is based on pharmaceutical remedies.—*Sajous*.

EARACHE IN CHILDREN.—Cannon, in *The Medical World*, commands dropping into the ear a few drops of atropine solution, one grain to the ounce, with a dram of glycerin.

THINK ALONE!—When for good reasons it is impossible for me to think well of a brother physician, I shall do my thinking alone.—R. J. Reed, *West Virginia Medical Journal*.

PHARMACOTHERAPY has not kept pace with the immense strides of all other branches; so that it is with many physicians almost moribund.—L. F. Barker, quoted by *Sajous*.

SPEAK WELL OF BRETHREN.—When, for good reasons, it is impossible for me to speak well of a brother physician, I shall not speak at all.—R. J. Reed, *West Virginia Medical Journal*.

RUSTING OF INSTRUMENTS.—Leval prevents the rusting of surgical instruments by boiling them in

1-4 per-cent solution of sodium hydrate. It does not injure any instrument in the slightest degree.

ANESTHESIA DEATH.—Miss Laura Von Gerber died at the West Side Hospital, while under the influence of ether, administered as an anesthetic for the purpose of an operation.—*Chicago Examiner*, May 5.

TEACHING OF PHYSIOLOGY.—Meltzer says: "Physiology tries to keep aloof from medicine; and manifests a longing for association with, or better still, for a reduction to, physics and chemistry."—*Sajous*.

CHLOROFORM.—The London (Ontario) *Free Press* reports that at Morrisburg, April 30, a lady collapsed while under the influence of chloroform, administered by a doctor, while a dentist was extracting teeth. The patient expired.

MASSAGE AND GONORRHEA.—Massage of a joint affected with gonococci leads to a greater absorption of toxins, and this may be shown by the effect on the opsonic curve, and in some cases by the clinical result.—Latham, *Canada Lancet*.

DRUGS HIS REMEDIES.—The physician knows through the teachings of practical experience that drugs are his legitimate and often trustworthy weapons of warfare, the strongest shield he has to interpose between his patient and the fell destroyer.—*Sajous*.

INFLUENZA.—W. Gifford Nash writes to *The Lancet* that he has discovered an unfailing diagnostic sign of influenza. This is a waxy, edematous swelling of the uvula, found at the commencement of the attack and lasting several days. It occurs before fever rises.

DEATHS FROM ANESTHESIA.—During 1906 in the city of London sixty-four deaths were officially reported as due to anesthetics administered for operations. In the remainder of England and Wales one hundred and nineteen more were reported.—*British Medical Journal*.

HIGH DEATH RATE!—A writer in *The Texas State Medical Journal* figures out a high percentage of deaths from scopolamine-morphine, by the highly original method of counting in eighteen deaths which occurred during operation under that

anesthetic, but which the operator declares were not at all due to the anesthetic, but anything is allowable to make out a case against a new anesthetic.

MENSTRUAL SUPPRESSION.—In suppression of menses due to cold, pulsatilla and gelsemium are excellent remedies. Cimicifuga is used in ovarian or uterine cases; manganese dioxide and iron in depraved conditions of the blood.—G. A. Landes, *Medical Era*.

CANNABIS INDICA.—The drug as prepared by Parke, Davis & Co. has proved efficacious in the author's hands for a number of years.—Hare's "Practical Therapeutics," Eleventh Edition, 1905. (Hare is also editor of Parke, Davis & Co.'s *Therapeutic Gazette*.)

WANTED: AN OLD NUMBER OF THE CLINIC.—If anyone has a spare copy of the February 1902 ALKALOIDAL CLINIC will he not please send it to this office? One of our subscribers, an old correspondent, is very anxious to secure this. Please let us know at once.

UREMIA.—Veratrine hypodermatically if swallowing is impossible, with heart stimulants if tension is low, should be pushed to effect. Veratrine opens up the excretory organs, increasing the elimination of urea and toxins through the skin, kidneys and bowels.—Smith, *Medical Era*.

PHYSICIAN VS. PHYSIOLOGIST.—Pawlow asserted that in many instances the physician gives a more correct verdict concerning physiological processes than the physiologist himself, and that clinical observations will consequently always remain a rich mine of physiological facts.—*Sajous*.

ALTERATIVES AND TONICS.—To interpret intelligently the physiological action of alteratives and tonics, an accurate knowledge of general metabolism, the foundation of nutrition, is necessary. What is known on this subject according to Michael Foster, "consists mostly of guesses and gaps."—*Sajous*.

NIHILISM.—Closely allied to the air, food and water apostles, are the therapeutic nihilists, who like Prof. Osler, believe in the doctrine of self-limited disease and look on while nature and the disease have it out. Jacobi emphasizes the truth of Dixon's doctrine that the tendency of all disease is toward death.—*Sajous*.

QUACKERY.—The normal results of this campaign against physicians, are that a multitude of innocent people are increasingly driven into the hands of quacks, that systems of practice based on this and misrepresentation are steadily gaining ground, and that patent-medicine vendors are accumulating untold wealth at the expense of the unwary.—*Sajous*.

THE PIRATES.—In *The Medical Gleaner*, John Uri Lloyd says the world is full of pirates, and some perfectly honest men have been made to take the chestnuts out of the fire for the pirates; and that when these pirates can get the working formulas

that have been established by years of expensive experiments, they have accomplished a very important feature in the line of piracy. Hence one of the methods that have been adopted by them is that of attempting force, in such a way as to compel a discoverer or an evolver in self-defense to publish his working formula for the benefit of the pirates.

BRYCE'S NEW SANATORIUM.—Dr. C. A. Bryce, the noted editor of *The Southern Clinic*, author of Bryce's "Practice of Medicine", has opened a sanatorium for private diseases, in the suburbs of Richmond. We have no doubt that this opportunity will be appreciated by the citizens of the Virginian capital, and that Dr. Bryce's enterprise will be suitably rewarded.

"TREATMENT."—The subdivisions headed "Treatment" or "therapeutics," in our text-books, are mere catalogues of drugs which are stated to be "particularly useful," "most efficient," "very valuable," "commonly employed," "of great value," etc., in this or that disease, and in which not an inkling is afforded as to how the remedy antagonizes the morbid process.—*Sajous*.

HICCOUGH.—In *The Medical Era*, Rankin describes a case of hiccough that had lasted more than seven days. It then ceased, and recurred one month later, finally yielding to hypodermics of hyoscine, morphine and cactus compound. From one injection the patient got three or four hours' rest. The affection occurred in a light form the next day, but on the following he was free, and it had not returned.

UNFAIRNESS.—*The Medical Era* calls editorial attention to the unfairness of the questions which are placed before the candidates for license by the State Examining Boards. Some questions cannot be answered because they are yet unsettled. The editor says: "We will venture to assert that every member of the average Board would fail were he confronted with an analogous set of questions constructed in a similar way."

ANESTHESIA.—Dr. Safley, of Livingston, Mont., informed the writer that he had administered more than two thousand of the H-M-C Comp. anesthetic tablets in his practice. According to Wood, he should have had to report at the same time at least ten deaths from that number, instead of which he had no deaths whatever to report. Multiplied evidences of this sort lead us to suspect that there is some grave mistake about Wood's statistics somewhere.

IRRIGATION.—A good deal of interest is being taken recently in the irrigation work in the northwest. Quite a number of these propositions are now before the public and a number of our physician acquaintances have invested in them. One in Western Wyoming, an irrigation plant put in by the State, sells the land including water privileges for \$30.50 per acre. A great Seattle company is developing an irrigation proposition on the Columbia River, thirty-five miles above Kennewick, the land here selling from \$175 to \$300 per acre. All these look good. But—investigate.